Technical Assistance Catalog

Office of Emergency Communications

TA-OEC-CATALOG-002-R0

January 2011

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FORWARD

OEC is pleased to publish the third annual Technical Assistance (TA) Catalog. This year's Catalog formalizes several new offerings that have evolved or expanded since the inception of the OEC/ICTAP (Interoperable Communications Technical Assistance Program). OEC/ICTAP grew from the predecessor FEMA technical assistance program that started in 2005.

OEC/ICTAP services are expanding and making a significant impact on our stakeholders' interoperable and emergency communications capabilities. There are 13 new or revised TA offerings this year including, among others, a broadband planning workshop, a qualification exercise to help COMLs become certified, a Communications Unit technician course, and a special offering to support Tribal Nations' interoperability needs.[1] New offerings are marked with a special tag by the offering name. In 2010, OEC is on track to complete over 125 technical assistance engagements in 56 States/Territories. In addition, this year using OEC/ICTAP resources, OEC completed observations and assessments of 60 Urban Area Security Initiative (UASI)-designated cities' National Emergency Communications Plan (NECP) NECP Goal 1 events.

Last year we formalized the Statewide Communication Interoperability Plan (SCIP) TA offering into a revolving workshop to support two objectives: help our stakeholders update and revise SCIPs; and get the word out about the NECP goals. We will continue that process during the coming year, and we have included a new offering in this year's Catalog, the Response-Level Communications Workshop, to help State and local jurisdictions prepare for NECP Goal 2.

We are also revising the process for selecting and scheduling technical assistance offerings. In late 2010 OEC Regional Coordinators will support the Multi-Jurisdictional Communications Services Division. We will contact Statewide Interoperability Coordinators (SWICS) to discuss which TA offerings can best help meet the challenges discussed in their SCIP updates as well as what TA services can promote interoperable voice and data communications at all jurisdictional levels.

Give us your comments and feedback at oec@hq.dhs.gov.

Best regards,

Chris Essid

Director, Office of Emergency Communications
Department of Homeland Security

[1] OEC TA is available to Federally-recognized Tribal nations.

Technical Assistance (TA) Catalog
Office of Emergency Communications
TA-OEC-CATALOG-002-R0

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The U.S. Department of Homeland Security (DHS) Office of Emergency Communications, Interoperable Communications Technical Assistance Program (OEC/ICTAP) supports and promotes the capabilities of emergency responders and government officials to continue to communicate in the event of natural disasters, acts of terrorism, or other man-made disasters, and works to ensure, accelerate, and attain operable, and interoperable emergency communications nationwide.

The mission of OEC/ICTAP is to enhance interoperable communications among State/Territory, local, and Tribal emergency responders, and public safety officials. OEC/ICTAP staff provide support for planning, operations, technical issues, and policy decisions that need to be considered when developing interoperable communications initiatives. The goal of the OEC/ICTAP program is to improve the capabilities of public safety agencies across multiple disciplines and jurisdictions to communicate effectively as they work to manage disasters, emergency incidents, and planned events.

Since 2007, OEC/ICTAP has fielded subject matter experts (SME) with the skills, practitioner experience, and technical knowledge to address stakeholders' TA needs. These SMEs bring practitioner and operations-based skills and technical expertise to bear on a wide range of interoperable communications challenges.

OEC TA also relates to the NECP[2], the Nation's first strategic plan to improve emergency response communications. The NECP Goal 1 event observations conducted during 2010 at 60 Urban Area Security Initiative cities nationwide have further informed OEC about the impacts and outcomes of TA. Eight of the NECP's 92 milestones relate directly to State and local activities. OEC/ICTAP offerings have and will continue to support NECP goals directly.

OEC/ICTAP offerings support both the NECP and our stakeholders' needs at State/Territory, local, regional and Tribal levels. The NECP is designed to drive measurable and sustainable improvements over the next five years consistent with the National Response Framework; the National Incident Management System (NIMS); and National Preparedness Guidelines. OEC/ICTAP TA continues to be a key tool for meeting those needs across all jurisdictional levels for a wide variety of public safety agencies and disciplines.

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[2] The NECP is available at: http://www.dhs.gov/xlibrary/assets/national_emergency_communications_plan.pdf

Availability of OEC/ICTAP Services:

OEC/ICTAP services are supported by Federal funding and are provided at no cost to the requesting agencies or organizations. Unfortunately, funds are limited, and OEC, in collaboration with requestors, will prioritize which requests can be accepted and which may have to be deferred.

Each State/Territory may request up to five TA offerings. OEC will work to ensure reach State/territory receives some level of OEC/ICTAP support. One request should support a UASI metropolitan area or, if the State/Territory has no UASI, a metropolitan area in the State. The services that may be requested through OEC/ICTAP are described in this Catalog and are categorized as follows:

1. **Governance**
2. **Standard Operating Procedures and Communications Support**
3. **Communications Unit Training and Support**
4. **Communications Operations Support**
5. **Communications Systems Engineering Support**
6. **Tactical Communications Enhancement Support**
7. **Regional Communications Enhancement Support**
8. **Special Offerings**
9. **Communication Assets Survey and Mapping (CASM) Support**

Each offering is listed by its title within one of these categories. A brief narrative describes the scope of services within the offering. A listing of deliverables is also included. New or revised offerings in this year's Catalog are marked with a star beside the offering's title. They include:

- GOV-PLAN: Follow-up Statewide Planning Workshop

- SOP-DSPTCH: Public Safety Communications Center (PSCC) Planning and Operations

- TRG-COMT: All-Hazards Communications Unit Technician (COMT) Course

- TRG-INT: Principles of Interoperability and the National Interoperability Field Operations Guide (NIFOG)

- TRG-INTRADIO: Introduction to Interoperable Radio Operations

- OP-COMLEX: All-Hazards Communications Unit Leader (COML) Exercise

- OP-GOALS: Response-Level Communications Workshop

- ENG-BRBND: Broadband Systems Support

- ENG-NB: VHF/UHF Narrow Banding

- TIC-COM: Communications Plan Analysis/Event Communications Plan Analysis

- TIC-UPDT: TICP Update Workshop

- RCES-SCMP: Regional Communications Enhancement Support — Strategic Communications Migration Plan (SCMP)

- SPCL-AUXCOMM: Auxiliary Communications Workshop

- SPCL-TRBL: Native American Public Safety Communications Needs

These offerings can be combined or tailored to suit the needs of the requesting organization. For example, one or more of the Catalog offerings may be combined to help a stakeholder accomplish a single project or initiative. Similarly, a requesting organization may request only part of the services described under a single offering if all elements are not needed to address the requestor's requirements.

Again, in 2011 OEC will offer SCIP update workshops on a regularly scheduled basis outside the TA request process. SWICs will be contacted in early 2011 to schedule them.

To request OEC/ICTAP services:

Review the OEC/ICTAP TA Catalog to select the desired services.

If you do not find an offering that matches your specific requirements, discuss them with your State/Territory's SWIC and OEC Regional Coordinator. Tribal Nation requestors should contact the OEC Regional Coordinator for the State(s) in which their Nation is located.

See Appendix A for the 2011 TA Request Form and instructions for submitting it.

Appendix B lists the OEC Regional Coordinators, the State/Territories they cover and their contact information.

Governance

A formal governance structure is critical to the success of interoperability planning. Governance involves a common structure for solving interoperability issues through improvement of policies, processes, and procedures of any major project by enhancing communication, coordination, and cooperation; establishing guidelines and principles; and reducing any internal jurisdictional conflicts. Governance involves decision-making groups responsible for ongoing planning and implementation of interoperable communications initiatives. OEC/ICTAP provides assistance with reviewing and evaluating existing governance structures, and providing recommendations for establishing new governance bodies or structures.

Governance Support services include:

- GOV-ASMT: Assessment of Existing Governance Structures

- GOV-DOC: Development of Governance Documentation

- GOV-GSM: Development of Governance Structure Models

- GOV-PLAN: Follow-up Statewide Planning Workshop

Follow-up SCIP Implementation Workshops will be scheduled in early 2011 directly with SWICs through the OEC Multi-Jurisdictional Communications Services Division.

GOV-ASMT: Assessment of Existing Governance Structures

Description

This offering provides a comprehensive assessment of the organizations, structures, and other decision-making bodies in place that are tied to interoperable communications in the requesting jurisdiction. OEC/ICTAP provides an assessment report review with recommendations to the current environment or structure intended to improve or enhance the oversight of interoperable communications activities in the jurisdiction. This offering typically involves a two day workshop with a follow-up webinar to review the report with the requestor.

This assessment includes an identification of the governance bodies, their composition, organizational structure, roles, and responsibilities, the scope of authority, the authority by which the governance bodies were established, how they interrelate to other governance groups in the same jurisdiction or geographic area, and a description of associated documents connected to the group such as Memoranda of Understanding (MOUs), charters, agreements, by-laws, etc.

Areas of overlap, duplication, or potential for confusion over authority, roles, and responsibilities are identified, along with suggested actions to resolve such issues.

Deliverables

- Workshop and presentation materials
- Final assessment report

GOV-DOC: Development of Governance Documentation

Description

This service offering provides a review of existing/proposed governance documents and/or assistance with developing new governance documents in order to provide constructive feedback and identify opportunities for enhancement that could lead to more effective communications interoperability planning, activities, and operations. This offering also provides a review of current processes for developing, revising, and storing governance documents, and recommendations for improvements.

There is a wide variety of documents that are associated with governance. These include formal statutory, legislative, or executive orders establishing governance structure and bodies. Other examples include by-laws, charters, Memoranda of Understanding (MOUs), mutual aid agreements (MAA), and various other types of agreements. Participants are provided with templates and samples used for developing formal charters, MOUs, MAAs, frequency/radio system sharing agreements, or other agreements for governance groups, OEC/ICTAP SMEs will also discuss lessons learned, and methods and models used for communications interoperability governance used by communities across the country.

Templates and samples for all document models include definitions of the purpose, authority, scope, operating principles, membership, decision-making processes, and expected outcomes. Recommendations are provided for the structuring of the various types of documents, questions, and issues to address when generating content for each of the document sections. OEC/ICTAP data specialists can help the requester populate governance document templates upon request.

Deliverables

- Workshop and presentation materials
- Document models and templates
- Populated document drafts
- Report on governance document and processes

GOV-GSM: Development of Governance Structure Models

Description

This offering provides models for the development of structures, strategies, and decision-making systems, and support to committees, and/or working groups responsible for the ongoing planning and implementation of interoperable communications initiatives. This workshop is typically a one and a half to two day engagement that brings together mid and senior level public safety managers whose responsibilities involve interoperable emergency communications.

This OEC/ICTAP workshop addresses the characteristics of successful governance models, organizational structures, and models for effective charters, and/or bylaws; provides examples of governance roles and responsibilities; and discusses performance measures. Workshop attendees discuss and develop recommendations for governance structures covering a specific geographical area and applicable jurisdictions.

Workshop participants discuss processes for identifying and including all relevant stakeholders. OEC/ICTAP workshop facilitators provide definitions and examples of roles, responsibilities, and relationships of effective governance groups. Recommendations are provided for the development of a strategic action plan by which goals and objectives are achieved, potential challenges are identified, and a mechanism is developed to regularly evaluate progress and effectiveness of planning efforts.

Deliverables

- On-site workshop and presentation materials
- Document models and templates

NEW GOV-PLAN: Follow-up Statewide Planning Workshop

Description

This service offering is an in-depth workshop for requestors who desire further assistance in developing plans for specific initiatives and challenges called out in SCIPs, beyond the workshops OEC offers on a rotating basis. Depending on the requestor's focus, this workshop lasts one to two days. The planning for initiatives beyond those of an annual SCIP workshop includes development of industry-standard project plan(s) for various initiatives, establishment of milestones and work breakdown activities. Some examples include building out planning for narrow banding, broadband, and multiregional exercise initiatives.

While this workshop focuses on initiatives and challenges in an individual State/Territory's SCIP, it also complements and provides a planning foundation for an interstate Strategic Communications Migration Plan (SCMP) (see p. 55).

Prior to the workshop, OEC will contact the Statewide Interoperability Coordinator (SWIC)/SCIP point of contact (POC) to discuss the specific initiatives, challenges and priorities on which OEC ICTAP SMEs should focus. This will enable OEC/ICTAP to provide an interdisciplinary team of SMEs during the workshop, for example, with experience as needed in RF engineering, planning, and operations to collaborate on site with the requestor's team.

At a minimum, workshop attendees should represent the Statewide Interoperability Governing Body (SIGB) or Statewide Interoperability Executive Committee (SIEC) and other communications, planning, and operations personnel from multiple area agencies and jurisdictions across all public safety/service disciplines, including Tribal, non-governmental organizations, and volunteer entities. Suggested participants would include, but are not limited to:

- SWIC and SCIP POC
- SIGB or SIEC members
- Law enforcement, fire, and emergency medical services (EMS) communication specialists, incident management staff and practitioners
- Agency planners and funding coordinators (for example, State Administrative Agency [SAA])
- Communications coordinators and supervisors
- Communications Unit Leaders (COML), radio operators, technical specialists
- Public safety communications center (PSCC) managers

Deliverables

- Workshop and presentation materials
- Additional deliverables (depending on focus)

Standard Operating Procedures and Communications Support

Standard Operating Procedures (SOPs) are formal written guidelines or instructions that usually contain both operational and technical components. In many cases, SOPs are designed to facilitate cross-discipline and cross-jurisdiction operations on a day-to-day or emergency basis. Clearly defined interoperable communications SOPs facilitate an orderly and efficient response to multiagency incidents and events as routine as daily calls for service and as catastrophic as large scale disasters. In addition to SOPs, various State/Territory, urban area, regional, and/or Tribal planning documents include specific communications components. Planning documents where communications play a role include, but are not limited to:

- Emergency Operations Plans (EOP)

- EOP Communications Annexes/Annex K (Annex K is the primary document for publishing communications system guidance)

- Emergency Support Function (ESF) #2

- Continuity of Government (COG) and Continuity of Operations (COOP) Plans

- Capabilities assessment planning

- Statewide Communication Interoperability Plan (SCIP)

- Tactical Interoperable Communications Plan (TICP)

- Public Safety Communications Center (PSCC) plans

OEC/ICTAP services for SOPs and communications plans include:

- SOP-ASMT: Assessment of Standard Operating Procedures/Communications Plan

- SOP-DEV: Development of Standard Operating Procedures/Communications Plans

- SOP-DSPTCH: Public Safety Communications Center Planning and Operations

SOP-ASMT: Assessment of Standard Operating Procedures (SOP)/ Communications Plans

Description

This service offering provides an independent third-party assessment of existing or proposed SOPs or Communications Plans. OEC/ICTAP provides an interdisciplinary team of Subject Matter Experts to ensure evaluation all facets of the procedure/plan and provide comprehensive inputs. OEC/ICTAP presents the results of the SOP/Communications Plan Assessment through a detailed report which documents strengths, concerns, and areas for improvement. The assessment report also includes recommendations designed to resolve identified gaps, improve the applicability and functionality of the procedure/plan, and enhance regional interoperable communications response capabilities.

Topics in this assessment may include key elements such as:

- Operational applicability

- Scope and authority

- Content and format

- Participating agencies

- NIMS compliance

- Compatibility with other State/Territory, Tribal, regional, and/or local procedures/plans

- SOP approval mechanisms

- Responsibility and process for maintenance and update

- Training requirements

- Dissemination process, etc.

State/Territory, Tribal, regional, and urban area public safety entities may request SOP/Communications Plan Assessment Reports in various forms, based on their needs. The content and depth of the deliverables are determined by user needs and will be tailored to the requirements of each individual request.

Deliverables

- Assessment report and presentation

SOP-DEV: Development of Standard Operating Procedures (SOP)/ Communications Plans

Description

This service offering provides an experienced facilitator, data specialist, and public safety Subject Matter Experts s to conduct an SOP or Communications Plan Development Workshop. OEC/ICTAP workshop personnel provide instruction and guidance about the development of both the operational and technical facets of interoperable communications SOPs or plans. They partner directly with the requesting State/ Territory, Tribal, regional, and/or urban area working groups to define and document the scope, tone, and content of the required SOPs or Plans. OEC/ICTAP presents participants with examples, models, and templates used for creating various types of SOPs. Other topics discussed during the workshop include:

- Authority
- Agencies/jurisdictions covered by the SOP/Plan
- Content and format
- Compliance with the National Incident Management System (NIMS)
- SOP/Plan approval process
- SOP/Plan dissemination, training requirements
- Frequency of usage
- Ongoing maintenance and update process
- Any other elements unique to the target jurisdiction(s)

States/Territories, Tribes, regions, regional entities, and urban area public safety entities may develop various types of plans and procedures during the workshop based on their individual needs. OEC/ICTAP also works with participants to minimize conflict with other existing SOPs/Plans at the Federal, State/Territory, Tribal, regional, and/or local levels. The final deliverable is tailored to meet the requirements of each individual request.

Deliverables

- Document models and templates
- Populated SOPs and/or plans

NEW

SOP-DSPTCH: Public Safety Communications Center (PSCC) Planning and Operations

Description

According to the National Emergency Number Association there are a several thousand PSCCs in the US. Most are faced with enormous demands keeping personnel trained, keeping pace with changing technology and maintaining continuity of operations plans (COOP) in the event of a major disaster or event.

This workshop helps PSCC supervisory personnel plan for continuity of operations in the event of evacuations, relocations or loss of capabilities. This workshop helps PSCC supervisory personnel plan for continuity of communications within those Plans in the event of evacuations, relocations or loss of capabilities. This workshop can be tailored to support other aspects of PSCC operations, including the migration to new technologies. Depending on requestors' needs, this workshop can encompass technical advice on Next Generation 9-1-1 (NG911) systems.

This one and a half day workshop provides participants a seminar-style venue for discussing current PSCC operations. OEC/ICTAP SMEs provide real world examples of plans for different COOP scenarios ranging from earthquakes to wild fires to hurricanes. In addition, they share best practices from around the Nation that can help participants identify and mitigate the risk to PSCC continuity of operations. The workshop includes breakout sessions in which participants define specific challenges to continuity of their centers' operations and then brainstorm approaches to meeting them.

The workshop then moves on to developing the outline for a COOP and appropriate annexes that document the operating environment, the potential challenges to operations, and specific planning for various relocation or evacuation scenarios.
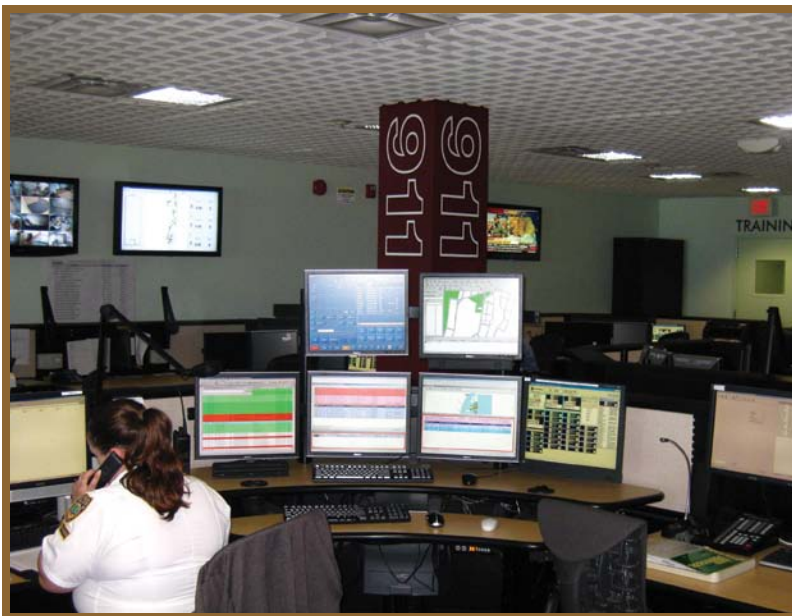
Deliverables

- Soft copy of populated draft COOP Plan

- Follow-up review of COOP

■ Communications Unit Training and Support

Training refers to gaining the knowledge, skills, and competencies needed to perform critical communications unit tasks. The Communications Unit Training provided by OEC/ICTAP offers a path from high-level awareness, non-technical awareness to professional levels. These graduated levels begin with orientation and progress through awareness, operational, supervision, management, and executive applications. These service offerings are presented in the framework of the National Incident Management System (NIMS) Incident Command System (ICS).

Communications Unit Training technical assistance is categorized into the following services. States/ Territories, Tribal, regional, and urban area requestors are welcome to invite Federal partners at the field level to participate if room is available. Communications Unit Training and Support services include:

- TRG-COML: All-Hazards Communications Unit Leader (COML) Course
- TRG-COML TtT: All-Hazards COML Train- the-Trainer Course
- TRG-COMT: All-Hazards Communications Technician (COMT) Course
- TRG-ICS: Communications Unit Integration into NIMS ICS Workshop
- TRG-INT: Principles of Interoperability and the National Interoperability Field Operations Guide (NIFOG)
- TRG-INTRADIO: Introduction to Interoperable Radio Operations

TRG-COML: All-Hazards Communications Unit Leader (COML) Course

Description

This service offering is a three day course, designed for all State/Territory, Tribal, regional, and local emergency response professionals, and support personnel with a communications background. It is designed to familiarize these professionals with the role and responsibilities of a COML under the NIMS ICS and to provide hands-on exercises that reinforce the lecture materials.

The Communications Unit in the ICS structure contains several positions, and the COML is the focal point within the Unit. The All-Hazards COML course provides DHS-approved, NIMS-compliant instruction to ensure that every State/Territory has trained personnel capable of coordinating on-scene emergency communications during a multi-jurisdictional response or planned event.

The course is presented with facilitated lecture and hands-on exercises. This workshop involves extensive interactive discussions and exercises. OEC/ICTAP SMEs will work through the discussions and exercises to explain in detail the processes used to reach communication operability, interoperability, and how to incorporate any additional communication solutions.

The duration and content of this service offering are outlined on p. 18.

Deliverables

- Workshop and presentation materials
- Student workbook and information CD

TRG-COML TtT: All-Hazards Communications Unit Leader (COML) Train-the-Trainer Program

Description

This service offering helps States/Territories and urban areas create a self sustaining COML training program by preparing individuals who have completed Communications Unit training at the Unit Leader level to teach the COML course. This course is also designed so that States/Territories may develop their own cadre of COML instructors. It will be offered through OEC/ICTAP on a limited basis in 2011.

The course is a one day training workshop presented with facilitated lecture and student exercises. Instructors will work through the discussions and exercises to explain processes used to provide the knowledge and skills necessary to effectively teach the COML course. Prerequisites are as follows:

- Students must have successfully completed an OEC approved All-Hazards COML course

- Students must have completed an All-Hazards COML Task Book, signed by the appropriate State/Territory official

- Students must have instructor credentials as recognized by the student's State/Territory

Candidates must submit a letter from their Statewide Interoperability Coordinator (SWIC) or State Administrative Authority (SAA) to OEC/ICTAP (via e-mail or fax), stating that the candidate:

- Has successfully completed all COML course prerequisites

- Has successfully completed the All-Hazards COML course

- Has an appropriately signed All-Hazards COML Task Book

- Has appropriate instructor credentials in the candidate's home State/Territory

- Is recommended by the SWIC or SAA to be an instructor candidate

- Will be supported by the State/Territory to complete all instructor requirements, including serving as an adjunct instructor after successfully completing the COML TtT course

Upon completion of the COML TtT course, each instructor candidate must teach one COML class by serving as an adjunct instructor with an OEC-approved instructor. Students will be evaluated by the OEC-approved instructor using an Instructor Task Book.

Deliverables

- On-site workshop and presentation materials

NEW TRG-COMT: All-Hazards Communications Unit Technician (COMT) Course

Description

This service offering helps participants create programs to deliver initial and refresher training specific to the COMT position. The COMT class is designed for State/Territory, Tribal, urban, local, and emergency response professionals, and support personnel in all disciplines with a communications background. This class is intended for those who have technical aptitude but who do not have strong technical experience.

The Communications Unit in the ICS structure contains several positions. The COMT Course is available to provide DHS approved NIMS-compliant COMT instruction to ensure that every State/Territory has trained personnel capable of providing on-scene emergency communications during a multi-jurisdictional response or planned event. This offering is a five day workshop, taught by a certified and experienced COMT instructor. The course is presented with facilitated lecture, student exercises, and hands-on lab work.

There is time built into the course to facilitate interactive discussions, exercises, and hands-on work. OEC/ICTAP instructors will work through the discussions, exercises, and hands-on work to explain processes used for successful establishment and operation of the technical communications resources supporting an incident or planned event. During the class, emphasis is placed on radio, telephone, data networks, and satellite technologies. The duration and content of this service offering are outlined on p. 18.

Logistical support items to be supplied by the requestor include:

- A projector and screen;

- A computer cable power strip and adequate power per student table;

- An easel with markers or a white board with markers and an eraser;

- Two portable repeaters with appropriate antennas and programmed frequencies;

- One portable gateway with a local gateway Subject Matter Expert (SME) or COML/COMT assigned to the gateway equipment who is not a class student;

- A local, regional, or State radio cache;

- (Recommended, not required) Satellite communications equipment with a local SME or COML/COMT assigned to it who is not a workshop attendee;

- (Recommended, not required) A mobile communications vehicle with a local SME or COML/COMT assigned to it who is not a workshop attendee.

OEC/ICTAP will coordinate with requestors about the logistical support items as arrangements for this work shop are formalized.

Deliverables

- Workshop and presentation materials

- Student workbook and information CD

TRG-COML COURSE DURATION AND CONTENT

Day 1	Day 2	Day 3
• Introduction • Communication Unit • Interoperable Communications • Frequency Regulations and Usage	• Incident Communication Systems • Incident Communication Plans • Incident Communication Centers	• Frequency Regulations and Usage • Coordination • Demobilization • Resource • Final Exercise

TRG-COMT COURSE DURATION AND CONTENT

Day 1	Day 2	Day 3	Day 4	Day 5
• Introduction • The COMT • Interoperable Communications • Radio Technology	• Incident Communications Systems • Gateways Technology • Telephone Technology	• Computer Technology • Satellite Technology	• Safety Awareness • Mobilization • Resource Awareness • Demobilization	• Review • Final Exercise

TRG-ICS: Communications Unit Integration into the National Incident Management System (NIMS)/Incident Command System (ICS) Workshop

Description

This service offering provides a training workshop focused on addressing communications-specific needs during an operational period and on the requirements for the communications unit planning process for subsequent operational periods. The workshop is designed to give an overview of the ICS for emergency response and support personnel tasked with implementing the NIMS/ICS principles, organization, and functions. OEC/ICTAP provides a certified and experienced NIMS/ICS instructor to teach the workshop.

The workshop emphasizes establishing an organization that allows for interoperable communications among all levels of the organization. Students progress through a simulated incident and engage in the command and general staff meeting (strategy meeting), tactics and plans meetings, develop an Incident Action Plan (IAP), and hand out the IAP while conducting an operational briefing. Students assume command, general staff, and unit leader positions, and produce documentation required for each position. Students develop an understanding for command, plans, operations, logistics, and administrative cycles for each primary management function.

Deliverables

- Workshop and presentation materials
- Document models and templates

NEW TRG-INT: Principles of Interoperability and the National Interoperability Field Operations Guide (NIFOG)

Description

This service offering provides a one day workshop to familiarize participants with the basics of mobile radio technology rules affecting public safety for terrestrial, aviation, and maritime channels and explains how the NIFOG relates to interoperability, whether from a national, statewide, or regional perspective. It discusses the content and use of the NIFOG for response-level interoperable communications under different scenarios. It discusses national interoperability channels and offers assistance in how to incorporate those into planning for interoperable emergency communications at local levels. It complements OEC/ICTAP offerings for Tactical Interoperable Communications Plan (TICP) and Field Operations Guide (TIC-FOG) workshops.

National Interoperability
Field Operations
Guide

U.S. Department of Homeland Security
Office of Emergency Communications
Version 1.3

Homeland
Security

May 2009

First published by OEC in 2007, the NIFOG has become the authoritative guide about nationwide mutual aid/interoperability channels. The NIFOG contains:

- Regulations and guidelines for national interoperability

- Tables of nationwide interoperability channels

- Mutual aid and other common public safety references

- Tables of commonly used frequencies

- Dialing instructions for Government Emergency Telecommunications Service (GETS) and satellite phones

The NIFOG provides information about interoperable communications across different operational venues. In an evolving emergency, for example, it can be critical that radio specialists understand how to effect interoperability among users on disparate land, maritime, and aeronautical radio systems. The NIFOG also provides context for practitioners to understand the regulatory and operating constraints on interoperability channels. For example, it explains why non-Federal public safety personnel may not operate on Federal interoperability channels simply by invitation of a Federal first responder.

Deliverables

- Briefing slides

- Reference documents

- Hard and soft copies of the NIFOG
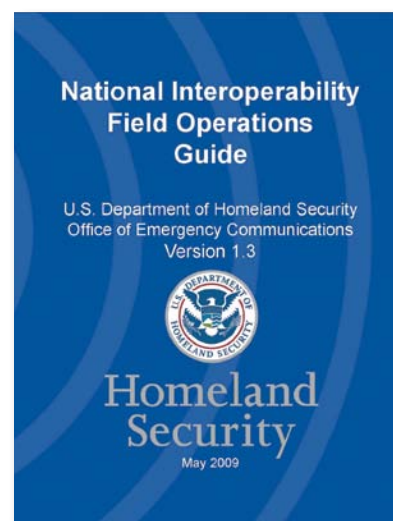
NEW TRG-INTRADIO: Introduction to Interoperable Radio Operations

Description

This service offering is for professional and volunteer individuals who work in public safety but not directly in emergency communications. Individuals who will benefit from this workshop are those who may need a deeper understanding and some practical knowledge of interoperable radio communications. For example, fire fighters, law enforcement support personnel and volunteer auxiliary communications enthusiasts, among others, will benefit from a better understanding about public safety interoperable and emergency communications.

Key topics include:

- Understanding of radio spectrum and how it is used in public safety
- Operational limitations of public safety voice and data communications
- Practical considerations about interoperable emergency communications
- Technical methods for establishing and maintaining interoperable communications during an incident or planned event
- Introduction to and hands-on familiarization with various vendors' subscriber and base station units
- NIMS ICS operational principles
- Emergency communications lessons learned from real-world incidents

This is a one-day workshop. The first half deals with general topics and basic skills. The second half is devoted to hands-on activities. This may include, in coordination with the host agency and attendees' needs, a tour of a Public Safety Communications Center (PSCC) or an Emergency Operations Center (EOC) to gain a better understanding of the interrelationship between dispatch functions or base station operations and everyday interoperable communications. Attendees who are volunteers must be sponsored by a public safety agency.

Deliverables

- Workshop and presentation materials
- Applicable subscriber and radio console "cheat sheets"

Communications Operations Support

Exercises are an important tool to train for and practice mitigation, prevention, response, and recovery capabilities. Often, however, a key Target Capability such as communications is either omitted from or only notionally included in exercises. To best approximate the true operational environment, exercises should thoroughly incorporate and evaluate available communications procedures, tools, and personnel into each multi-agency, multi-discipline, multi-jurisdictional training/testing opportunity. OEC/ICTAP SMEs provide States/Territories, Tribes, regions, and urban areas expertise in:

- Designing, conducting, and evaluating communications-focused public safety/service discussion-based and functional exercises

- Evaluating communications capabilities at full scale exercises

- Preparing Injects for communications-specific exercises

- Pre-planning for interoperable, emergency communications for special events

- Assessing on-site operational procedures relating to communications

States/Territories, Tribes, regions, and urban areas should incorporate interoperable communications into exercises in order to:

- Promote an increased awareness of regional communications interoperability capabilities

- Identify areas for measurable improvement in interoperable communications elements (that is, governance, standard operating procedures, technology, training and exercises, and usage)

- Achieve a shared understanding of existing communications interoperability strengths and gaps experienced by regional communication specialists, first responders, and public safety officials

- Build stronger relationships among regional public safety professionals, officials, and first responder that transcend agencies, jurisdictions, and disciplines

OEC/ICTAP exercise support complies with HSEEP standards as the basis for developing exercise content. TA within Communications Operations Support is categorized into the following services. States/Territories, Tribes, regions, and urban areas may request service offerings individually or in any combination. Communications Operations Support services include:

- OP-ASMT: Operational Communications Assessments

- OP-COMLEX: All-Hazards Communications Unit Leader (COML) Exercise

- OP-EXTTX: Communications-focused Executive Tabletop Exercise (EX-TTX)

- OP-FE: Communications-focused Functional Exercise (FE)

- OP-FSE: Communications-focused Full Scale Exercise (FSE)

- OP-GOALS: Response-Level Communications Workshop

- OP-SPEV: Special Event/Pre-Event Planning Support

- OP-TEPW : Training and Exercise Plan Workshop

- OP-TTX: Communications-focused Tabletop Exercise (TTX)

OP-ASMT: Operational Communications Assessments

Description

In this service offering, OEC/ICTAP SMEs conduct specific assessments of communications capabilities, assets, or procedures.

All operable and interoperable communications must be efficient and intuitive in order to be effective tools for public safety responders and communications specialists. Operational communications assessments, therefore, ensure that proposed or in-place technologies, plans, and procedures enhance and support operations. OEC/ICTAP SMEs can assess emerging tools in the requesting State/Territory, Tribal, regional, or urban area agencies specific environment to measure the likelihood of a responder's or dispatcher's success in using those tools in an event or incident.

These assessments are tailored directly to the requestor's individual needs and can include items such as:

- Field assessments through "ride-alongs" with responders

- Dispatch center and Public Safety Answering Point (PSAP) assessments

- Specific mobile equipment (for example, gateway devices, mobile communications vehicles, etc.) deployment assessments

- Tactical/emergency applications of routine interoperable communications solutions (for example, shared channels for multi-agency vehicle pursuits, etc.)

- Tactical assessments of interoperable assets for specialty response teams

OEC/ICTAP presents the results of each assessment through an Operational Assessment Report. The final deliverables are tailored to meet the requirements of each individual request.

Deliverable

- Operational assessment report

NEW OP-COMLEX: All-Hazards Communications Unit Leader (COML) Exercise

Description

In this service offering an OEC/ICTAP COML instructor will collaborate with public safety personnel from State/Territory, region, or urban area to design, facilitate, and evaluate a Communications Unit Leader (COML) exercise. This offering is a follow on to TRG-COML. It leverages that offering and helps accelerate the credentialing to COML status. Public safety professionals who have completed a COML course must complete a series of competency tasks outlined in the COML Task Book to become a qualified COML. In this offering tasks are designed to simulate those COMLs will encounter during an incident or planned event. This exercise affords an opportunity for COML trainees to complete their Task Book to become a qualified COML. At the end of the exercise a local qualified COML will be able to sign off elements of the Task Book for participants who have demonstrated their proficiency. If the requestor does not have a qualified COML, OEC/ICTAP will include a nationally qualified COML to sign off the Task Books. The OP-COMLEX complies with the Homeland Security Exercise and Evaluation Program (HSEEP) and is aligned with Emergency Support Function #2 (Communications) and the DHS Target Capabilities List (TCL). The goal of the exercise is for each COML participant to attain status as a qualified COML.

The OEC/ICTAP COML instructor partners with the area's Exercise Planning Team (EPT) to ensure that the exercise meets the goals and objectives of the requestor. In advance of the COMLEX, OEC/ICTAP provides the requesting site a logistics checklist that covers facilities and equipment needed for the exercise.

The EPT includes a team lead and exercise controllers. Team leads are qualified COMLs and, in many cases, are also certified as COML trainers. The team lead is also certified to execute COML exercises, experienced in conducting operations-based exercises, and has experience in public safety communications. Controllers are qualified COMLs trained to assess participants' performance on each COML task. Depending on the number of COML trainees, OEC/ICTAP may request the local agency provide additional controllers. This joint EPT will design the COML exercise in two to three one-day planning sessions. One full day is required to execute the COML exercise itself. At the completion of the exercise, the joint EPT will collaborate to determine which participants successfully completed the various COML tasks, and it will make recommendations to help participants improve their task performance in the future. A final task performance summary will be delivered to the site with the results of the participants' performance. The OEC/ICTAP COML instructor will work with the EPT to determine how credentialing will occur on a case by case basis.

Deliverables

- Planning conference inputs
- Exercise plan
- Logistics checklist
- Controller/evaluator handbook
- Master Scenario Events List (MSEL)
- Exercise Evaluation Guide (EEG)
- Final task performance summary with follow-on recommendations

OP-EXTTX: Communications-Focused Executive Tabletop Exercise (EX-TTX)

Description

In this service offering, OEC/ICTAP SMEs collaborate with public safety executives and elected/appointed officials in a State/Territory, Tribe, region, or urban area to design, facilitate, and evaluate a communications-focused executive tabletop exercise (EX-TTX) tailored to their unique needs.

Large-scale incidents can result in significant long-term physical, economic, social, political, psychological, and environmental impacts on a region. To ensure effective response to, and recovery from, such an incident, senior public safety executives need an understanding of communications tools and training in order to coordinate a multiagency response.

The EX-TTX will comply with the Homeland Security Exercise & Evaluation Program (HSEEP) guidelines and is aligned with Emergency Support Function (ESF) # 2 (Communications) and the DHS Target Capabilities List (TCL). The EX-TTX is usually one day in duration and focuses on ways to utilize interoperable communications policies, procedures, and technologies to:

- Maintain command and control during incidents

- Enhance situational awareness

- Properly function within the incident management process

- Provide policy inputs to the incident commander or unified command team

- Craft and deliver a cohesive incident message to the public

OEC/ICTAP provides the requesting State/Territory, Tribe, region or urban area with an Exercise Design Team (EDT) that includes a facilitator, data specialist, and evaluators. The facilitator is trained and certified to execute EX-TTXs, is experienced in conducting discussion-based exercises, and possesses experience in public safety executive-level communications. Evaluators are public safety SMEs trained to identify successes and gaps during the exercise. In advanced of the EX-TTX, OEC/ICTAP provides the requesting site a logistics checklist that covers required facilities, equipment, and other related issues.

OEC/ICTAP briefs the results of the EX-TTX through an initial QuickLook presentation and provides a detailed After Action Report (AAR) /Improvement Plan (IP) which documents best practices, gaps, and recommendations to resolve those gaps. This AAR/IP helps measure progress toward resolving interoperable communications gaps through a Corrective Action Program (CAP). Finally, OEC/ICTAP provides the site an executive tabletop exercise manual with detailed guidance about conducting future EX-TTXs.

Deliverables

- Initial and final planning conference briefings
- AAR/IP
- After action conference presentation
- Executive tabletop exercise manual

- Situation Manuals (SITMANs)
- Logistics checklist
- Exercise presentations and briefings
- QuickLook presentation

OP-FE: Communications-Focused Functional Exercise (FE)

Description

This service offering provides an OEC/ICTAP Exercise Design Team (EDT) who collaborates with public safety and public service professionals from a State/Territory, Tribe, region or urban area to design, facilitate, and evaluate a communications-focused Functional Exercise (FE). This exercise will comply with HSEEP guidelines and is aligned with ESF #2 (Communications) and the DHS TCL.

Exercise participants demonstrate their ability to use regional communications assets in a large-scale incident scenario, but the movement of personnel and equipment is simulated. An FE is an excellent follow-on exercise to a TTX and a training lead-in to a Full Scale Exercise (FSE). It is typically a one day, on site event with three one day planning sessions.

OEC/ICTAP provides an EDT of public safety communications SMEs trained to identify successes and gaps revealed during the exercise. OEC/ICTAP may request that the site provide additional controllers or evaluators, and OEC/ICTAP provides controller/evaluator training for all personnel involved. The OEC/ICTAP EDT partners with the local Exercise Planning Team (EPT) to ensure the exercise is designed to meet the needs of the requestor.

OEC/ICTAP compiles the results of the FE through an initial QuickLook presentation followed by a detailed written AAR/IP. The AAR/IP documents exercise best practices, gaps, and recommendations to resolve those gaps. If the FE follows an OEC/ICTAP Tabletop Exercise (TTX), the AAR/IP will also assess progress made on gaps identified during the TTX. This AAR/IP then allows the State/Territory, Tribal, regional, or urban area agency to further promote and measure progress toward resolving identified interoperable communications gaps through a Corrective Action Program (CAP). Finally, the requesting site receives a detailed Functional Exercise Manual that provides specific guidance on how to conduct future communications-focused FEs.

Deliverables

- Initial, mid-term, and final planning conference briefings
- Exercise Evaluation Guidelines (EEGs)
- Functional exercise manual
- Controller/evaluator handbook
- AAR/IP
- Controller/evaluator training briefings

- After action conference presentation
- Master Scenario Events List (MSEL)
- QuickLook presentation
- Logistics package
- Exercise presentations and briefings
- Exercise plan (EXPLAN)

OP-FSE: Communications-Focused Full-Scale Exercise (FSE)

Description

This service offering helps a requestor plan and execute a Full Scale Exercise (FSE) to evaluate interoperable and emergency communications capabilities within a specific geographic area. Although communication is one of several capabilities included in an exercise scenario, interoperable communications are frequently not an evaluation focus, and gaps in this area may be neglected in exercise reports. FSEs are often large multiagency, multidiscipline, multijurisdictional exercises designed to test many facets of emergency response and recovery operations. OEC/ICTAP SMES will assist the local EPT during planning and development of an FSE to integrate interoperable communications components into the exercise itself.

OEC/ICTAP does not independently design or facilitate stand-alone communications-focused FSEs. However, OEC/ ICTAP SMEs can help ensure the local EPT considers all components of interoperable communications during the exercise and provide detailed inputs. This assistance can include tasks such as developing or enhancing exercise injects to trigger communications events, incorporating applicable communications performance measures, identifying communications assets for exercise play, documenting known communications challenges that could impact exercise play, and contributing to EEG. OEC/ICTAP can also provide evaluators during the FSE who focus specifically on assessing communications.

OEC/ICTAP presents the results of the FSE by providing its evaluation results to the local EPT for incorporation into the exercise AAR. If the FSE follows an OEC/ICTAP TTX, EX-TTX, or FE, the AAR inputs will also attempt to document progress made on gaps identified during those exercises.

Deliverables

- Initial, mid-term, and final planning conference inputs
- Communications exercise evaluation guides
- Inputs to AAR/IP
- After action conference presentation inputs

NEW OP-GOALS: Response-Level Communications Workshop

Description

This TA offering familiarizes participants in a one day seminar/workshop with the basics of response level communications - the benchmark of the National Emergency Communications Plan (NECP). The purpose of this workshop is to assist urban areas and other governmental levels in preparing for activities relating to the NECP goals and/or improving their response-level communications performance on an on-going basis.

As defined in the NECP, response-level emergency communications is:

"the capacity of individuals with primary operational leadership responsibility to manage resources and make timely decisions during an incident involving multiple agencies, without technical or procedural communications impediments…"

The NECP describes three national goals for response-level communications:

NECP GOALS

Goal 1

By 2010, 90 percent of all high-risk urban areas designated within the Urban Areas Security Initiative (UASI) are able to demonstrate response-level emergency communications within one hour for routine events involving multiple jurisdictions and agencies.

Goal 2

By 2011, 75 percent of non-UASI jurisdictions are able to demonstrate response-level emergency communications within one hour for routine events involving multiple jurisdictions and agencies.

Goal 3

By 2013, 75 percent of all jurisdictions are able to demonstrate response-level emergency communications within three hours, in the event of a significant event as outlined in national planning scenarios.

Throughout 2010 DHS observed and evaluated 60 UASI regions in assessing the Nation's readiness to meet Goal 1. In 2011 and 2012 the Department will continue this effort to help requestors focus on:

- Common Policies and Procedures: This module focuses on updating foundational documents used in planning for and observation of localities' interoperable communications. These may include Tactical Interoperable Communications Plans (TICPs), Field Operations Guides (FOGs), and SCIPs.

- Quality and Continuity: This module focuses on the importance of backup and continuity of communications within the region and relates to a region's overall continuity of operations planning; and

- Responder Roles and Responsibilities: This module focuses on providing operational leadership (potential operations section chiefs) with information about NIMS ICS, COML duties and responsibilities, Incident Radio Communications Plan (ICS 205), etc.

Other aspects of this workshop include discussion of the NECP milestones and the role of elected and appointed officials in preparing for the NECP goals.

This workshop can be tailored for specific jurisdictions such as metropolitan urban areas (both UASI and non-UASI), counties, intrastate and interstate regions. It will be offered primarily as a recurring webinar so that SWICs may schedule multiple attendees from different jurisdictions at convenient times.

Deliverables

- Webinar and presentation materials

OP-SPEV: Special Event/Pre-Event Planning Support

Description

In this service offering OEC/ICTAP SMEs collaborate with public safety professionals in a State/Territory, Tribal, regional, or urban area agency during the planning and execution phases of planned special events.

Planned special events such as national/international sporting events, civic festivals, large conventions, or political summits can involve dozens of public safety agencies from multiple disciplines and jurisdictions, and present significant challenges to establishing and maintaining appropriate interoperable communications. Large-scale planned events, therefore, require substantial operational planning and preparation to coordinate all public safety participants, to ensure that the event proceeds smoothly, and to prepare to respond to one or more related incidents.

OEC/ICTAP SMEs provide the right mix of skills (for example, operations, engineering, or policies and procedures) to ensure the team's ability to advise on all components of interoperable and emergency communications prior to or during the event. Through this service offering, OEC/ICTAP SMEs can work directly with the local event planners to provide inputs to event/incident action plans, assist with developing communications plans, identify pre-event training opportunities, and/or advise on methods to overcome identified communications challenges.

Deliverables

- Planning conference inputs
- Event/incident action plan communications-focused inputs
- Communications plan inputs
- Other assessments, on request

OP-TEPW: Training and Exercise Plan (T&EP) Workshop

Description

A communications-focused Training and Exercise Plan (T&EP) workshop provides a requestor an opportunity to translate State/Territory, local, regional, Tribal goals and priorities into specific training and exercise objectives. The T&EP complies with HSEEP guidelines and complements an area's overall training and exercise plan, if already developed. A communications-focused T&EP helps to:

- Coordinate and integrate all communications-related training and exercise activities throughout the region across State, local, and Federal agencies

- Minimize duplication of effort

- Ensure resources are not over-extended

- Maximize the effectiveness of training and exercise funding allocations, and

- Present opportunities for various jurisdictions and agencies to fulfill multiple grant requirements for interoperable communications with a single exercise or training course

When completed, the T&EP prioritizes the communications training and exercise needs for the area and then aligns them with key Federal and State guidance documents such as the NECP, HSPD-8, the DHS TCL, and SCIP. This helps requestors better define the alignment between their priorities and National or State priorities in order to streamline funding and support requests. The T&EP also focuses on aligning a requestor's training and exercise priorities with outcomes noted in previous AARs and IPs, helping the area to maintain a CAP, and leveraging results of past exercises.

OEC/ICTAP provides a facilitator, data specialist, and telecommunications SMEs who coordinate and execute a two-day workshop which develops the T&EP based on an assessment of regional training and exercise needs. The first day of the workshop is designed as a data gathering session focused on:

- Reviewing communications progress and accomplishments to date

- Consolidating known communications gaps

- Reviewing public safety/service communications training and exercise needs in light of regional or State homeland security strategy

- Identifying needs not associated with known training and/or exercise offerings

- Documenting future training and exercise offerings/opportunities

During the second day, an OEC/ICTAP data specialist will populate the template with the information from the first half of the workshop. The second day focuses on incorporating that information into a regional plan and working with stakeholders to populate information into the T&EP template. During this interactive session OEC/ICTAP facilitators may provide, as appropriate, examples from other regions nationwide to help participants apply best practices and lessons learned to situations similar to their own.

The workshop attendees should mirror the responders and support personnel needed for a major incident or planned event in the region. The most successful T&EPs are based on strong, diverse representation from stakeholders from all disciplines, jurisdictions, and agencies across a region. The requesting site's attendees should include communications and operational personnel from multiple agencies and jurisdictions across all public safety/service disciplines, including non-governmental organizations, volunteers, and Tribal entities in the area.

Deliverables

- Workshop and presentation materials
- Document models and templates
- Populated T&EP draft

OP-TTX: Communications-Focused Tabletop Exercise (TTX)

Description

In this service offering OEC/ICTAP SMEs collaborate with public safety and public service professionals from a State/Territory, Tribe, region or urban area to design, facilitate, and evaluate a communications-focused tabletop exercise (TTX). This exercise will comply with the HSEEP guidelines and is aligned with ESF #2 (Communications) and the DHS TCL.

A TTX is discussion-based, usually one day in duration with two one-day planning briefings. It is designed to evaluate communications plans, policies and procedures, and to assess communications systems needed to prevent, respond to, and recover from an emergency incident scenario. OEC/ICTAP tailors the scenario to the requesting area's needs.

The TTX provides an opportunity for responders, supervisors, and communications specialists to discuss communications plans, assets, and personnel in a static environment. Players review and discuss their ability to use regional communications assets in response to a large-scale incident scenario but the movement of personnel and equipment is simulated. A TTX is an excellent means for initiating multi-agency exercise relationships or reviewing regional policies or procedures such as a TICP. It should precede both functional and full-scale exercises.

OEC/ICTAP provides the requesting State/Territory, Tribe, region or urban area an EDT including a facilitator, data specialist, and evaluators. This Team partners with the local EPT to ensure the TTX meets the specific needs of the requestor. The OEC/ICTAP EDT also provides a logistics checklist that covers facilities, equipment, and other related issues.

OEC/ICTAP briefs the results of the TTX through an initial QuickLook presentation followed by a detailed, written AAR/IP. This AAR documents best practices and gaps and makes recommendations to resolve gaps. The AAR/IP can be used to help measure progress in resolving interoperable communications gaps through a CAP. OEC/ICTAP provides the site an tabletop exercise manual with detailed guidance about conducting future TTXs.

Deliverables

- Initial and final planning conference briefings
- Situation Manual (SITMANs)
- QuickLook presentation
- Logistics package (invitations, checklists, etc.)
- Exercise presentations and briefings
- AAR/IP
- After action conference presentation
- Tabletop exercise manual

■ Communications Systems Engineering Support

For any interoperable communications solution to be accepted and used, the underlying technology must be robust, reliable, intuitive, and trusted. OEC/ICTAP offers objective third-party services to help public safety radio administrators enhance their Land Mobile Radio (LMR) and data system networks and make informed decisions about technology.

These services can help State/Territory, Tribal, regional, or urban area public safety agencies develop confidence in their chosen interoperability solutions, use those solutions more effectively across their respective areas, and improve the technological capacity to support day-to-day and large-scale interoperable communications needs.

Communications systems engineering offerings cover all phases of a communication system's life cycle — defining requirements, identifying solutions, implementing the system, and supporting existing systems. These services include offerings such as system analyses, Project 25 (P25) standards information sharing, system performance analysis, narrow banding, broadband issues, hands-on equipment training, and others as requested.

OEC/ICTAP's communications systems engineers bring expertise in areas such as system configuration options, RF coverage, LMR standards, microwave technologies, data interoperability, narrow banding, broadband wireless, national spectrum requirements, etc. They also advise and participate in other service offerings such as exercise observation and analysis, communications plan development, and communications unit training.

Communications systems engineering support services include:

- ENG-AG: Audio Gateway Information and Training

- ENG-BRBND: Broadband Systems Support

- ENG-COV: RF Coverage Prediction and Propagation Testing

- ENG-DS: Data Systems Interoperability

- ENG-DT: RF Coverage Drive Test Measurements

- ENG-MIG: LMR System Migration

- ENG-MW: Microwave Design Analysis

- ENG-NB: VHF/UHF Narrow Banding

- ENG-P25W: P25 Land Mobile Radio Workshop

- ENG-SHARE: Systems and Engineering — Shared Resource Analysis and Coordination

- ENG-SITEID: Systems and Engineering — Site Identification and Sharing Agreement

- ENG-SYS: LMR System Analysis

ENG-AG: Audio Gateway Information and Training

Description

This offering provides different levels of understanding on gateway (that is, audio bridge) functionality and operations. Participation in all three modules should prepare State/Territory, Tribal, regional, or urban area personnel for activation and deactivation of available gateways.

It consists of three modules:

Module 1 — Gateway Overview. A high-level overview targeted for anyone requiring a basic understanding of gateway functionality.

Module 2 — Advanced Gateway Operation. Targeted for personnel interested such as Communications Unit Leaders (COML), Communication Coordinators (COMC), Communications Technicians (COMT), and agency communication specialists who need a more advanced understanding of gateway operations; for example, use-specific issues such as co-site RF interference.

Module 3 — Gateway Hands-on Configuration. This module is equipment specific, targeted for gateway installers, maintenance technicians, and specialists.

The workshop's lectures, discussions, and practical exercises are focused on the gateways specific to the site and are intended to prepare personnel in the region to quickly activate and deactivate their own equipment. The total workshop is approximately six to eight hours long. Each module is intended to build on previous module(s). The training session can accommodate approximately 20 students for modules 1 and 2 but no more than ten for module 3.

Deliverables

- Workshop and presentation materials
- References (CD)
- Available gateway firmware updates
- Simulation software

NEW　ENG-BRBND: Broadband Systems Support

Description

The term "broadband" is used to describe network connectivity that can accommodate streaming video, complex graphics, VoIP, and other data intensive transmissions. Since the release of the FCC National Broadband Plan (NBP) with its specific reference to public safety, many jurisdictions have already petitioned to build out regional 700MHz broadband networks ahead of a nationwide network. Key public safety organizations are advocating Long Term Evolution (LTE) technology for roaming and interoperability between broadband networks.

"To ensure the safety of the American people, every first responder should have access to a nationwide, wireless, interoperable broadband public safety network."

— FCC, Connecting America: The National Broadband Plan (Mar. 16, 2010)

This service offering assists State/Territory, Tribal, regional, or urban area users to understand and implement options for the use of broadband technology in public safety. The offering provides a range of services including informational briefings, development of governance models and standard operating procedures, project planning, and engineering support. The informational aspect of this offering will be provided by means of a recurring webinar.

For on-site assistance, OEC/ICTAP conducts an initial meeting to familiarize participants with the principles of broadband and its applications to public safety, followed by group discussion to identify agency or site needs and objectives and to define further TA that may be needed. The briefing can be tailored to an audience's specific needs and can include topics such as:

- LTE and its relationship to the NBP

- Licensing of the 700 MHz "D" Block to a Public Safety Broadband Licensee (PSBL) and sublicensing

- Role of the PSBL in mutual aid operations

- Location-based services for management applications on subscriber units and within agency-level command/control applications

- Operational and technical interfaces between wireless cellular (commercial) and private public safety data networks

- Providing Internet access

- Providing access to responders operating under the ICS

In addition to informational briefings and seminars, OEC/ICTAP can provide:

- Assistance with the drafting of project plans for each county

- Assistance with the drafting of charters, inter-agency agreements, or other such governance documents

- Information on broadband technology including 700 MHz, LTE, WiMAX, and Evolved High-Speed Packet Access (HSPA+)

- Assistance with development of notional system designs for broadband technology that support local intra-agency operability and interagency interoperability

- Assistance with technical content of a Request for Proposals (RFP) or review and comment on such information

- Review of technical content of submitted proposals

- Assistance in the development of acceptance plans for purchased systems or review and comment on acceptance plans

- Monitoring the acceptance testing and reporting observations

Deliverables

- Workshop and presentation materials

- Webinars

- Reports and analyses appropriate to requested assistance

## ENG-COV: RF Coverage Prediction and Propagation Testing

Description

This service provides requestors an assessment of radio frequency (RF) system coverage (for example, coverage footprints) for a State/Territory, Tribal, regional, or urban area. Existing Land Mobile Radio (LMR) systems may not provide adequate RF coverage for an entire operational area. Coverage gaps impact the ability of public safety professionals to communicate and may significantly hinder their response. RF coverage prediction maps, therefore, allow radio system administrators to visualize RF coverage, to baseline system performance prior to any changes or upgrades, to identify potential for co-site RF interference, and/ or to determine where gaps occur in both existing and proposed radio networks.

OEC/ICTAP communications systems engineers can provide RF coverage prediction maps in various forms including traditional static images and dynamic, interactive graphical representations using Google Earth®. These maps can be used as a tool to plan for:

- Current system upgrades (for example, new tower locations, new antenna locations, and frequency band changes)

- A catastrophic infrastructure loss (for example, collapsed tower, equipment power loss, and damaged repeater)

- System migration by providing an independent assessment of proposed system coverage

State/Territory, Tribal, regional, or urban areas may request RF coverage prediction maps in various forms, based on their reporting needs. The content and depth of the final deliverables are determined by user needs and are tailored to the requirements of each individual request.

OEC/ICTAP RF engineers utilize a frequency mapping tool (FMT) to identify appropriate frequencies from the Federal Communications Commission (FCC) database and assess their geographical coverage. Frequencies and tower sites are selected from the FCC database and displayed using Google Maps®. A three-dimensional display is then provided by using Google Earth®. This allows for a much more useful assessment of the type of terrain so that coverage map models can be adjusted to more meaningful parameters. Deliverables can be tailored to the requestor's specific requirements.
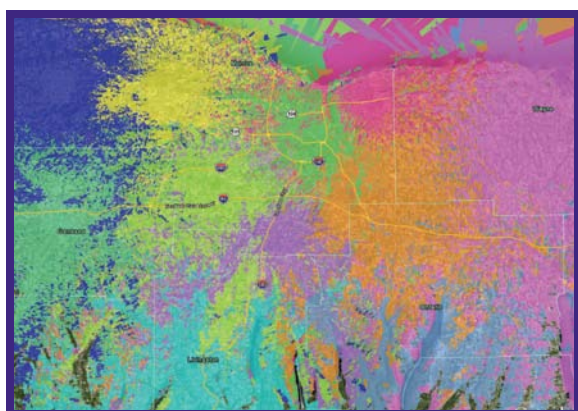
Deliverables

- Images in Microsoft PowerPoint® presentations

- RF coverage analysis report

- Google Earth® files

ENG-DS: Data Systems Interoperability

Description

As LMR voice systems become more robust, especially as the migration to P25 standard-based equipment becomes more substantial, an increasing number of State and local emergency management agencies are turning attention to data systems interoperability as their next area of focus.

This service offering provides an assessment of current data systems capabilities, identification of future needs, identification of options to meet these needs, and assistance with the development of requirements documents. For example, user requirements may include assessments of low bandwidth mobile data terminals, high bandwidth video/graphics and data files, and medium bandwidth data transfers between Emergency Operation Centers.

Options for consideration include low data rate mobile data terminals available from various voice vendors, commercial services, stand-alone data systems, and various off-the-shelf technologies (for example, 4.9 GHz, WiFi, LTE). Issues to be addressed include migration options, own or lease, data and voice integration, and operating band. OEC/ICTAP can also provide assistance with review of the technical portion of proposals and acceptance testing of selected systems.

Interoperability assessments include the integration of existing internal disparate systems, diverse protocols, infrastructure design review of both RF and land based networks, backhaul design review, RF system access points, and system security risks. Other factors related to assessments of data systems' interoperability may include the types of applications running on the network, bandwidth requirements, system traffic/usage, and connections/interfaces with external systems.

Deliverables

- Site collaboration presentations and discussions
- Final assessment report
- Final assessment presentation

ENG-DT: RF Coverage Drive Test Measurements

Description

In this service offering, OEC/ICTAP engineers collect measurements of system strength in order to assess the true performance of a LMR system.

Existing LMR systems are typically designed or characterized by prediction models and software. This methodology alone may not provide an adequate level of prediction accuracy upon which to base important region-wide radio system decisions. However, using field strength measurements from a user's existing system provides real-world data to calibrate prediction software applications, thereby improving accuracy.
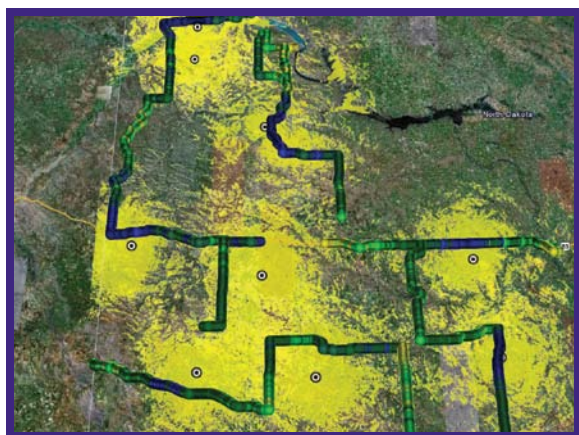
The results of RF coverage drive tests can be used to define and refine system coverage requirements, provide information for system implementation, and enhance existing system operations over the course of the radio system's life cycle. For existing systems, Drive test data can be used to supplement baseline coverage studies. For new system implementations, a Coverage Acceptance Test (CAT) is performed by the installer to determine if the installed system meets the design requirements. Drive test data from this technical assistance service can supplement the CAT. OEC/ICTAP also provides requestors a detailed explanation of the analysis methodology used.

States/Territories, Tribes, regions, and urban areas receive OEC/ICTAP Drive Test data in various forms, based on their reporting needs. The final deliverables are tailored to meet the requirements of each individual request.

Deliverables

- Measurement data (Microsoft Excel®, MapPoint®, Google Earth®)

ENG-MIG: LMR System Migration

Description

This service offering assists State/Territory, Tribal, regional, or urban area users in implementing a migration strategy to move from a legacy LMR system to a new P25 standards based system. There are three phases of this support. For the first phase, OEC/ICTAP communications systems engineers review and analyze current system utilization, including:

- Jurisdictional boundaries
- Essential talkgroups
- Frequencies
- Coverage boundaries
- Tower locations
- Subscriber radio capabilities
- Other related parameters

As a second phase to this effort, OEC/ ICTAP engineers review and analyze new system documentation or plans in order to better provide recommendations for a switch-over. The third phase of this service includes recommendations on a migration plan that utilizes information gathered in Phases 1 and 2. Phase 3 includes consultations and discussions with the system users, administrators, equipment providers, and installers to establish a switch-over strategy. There are many factors to be taken into account within a migration plan. Some factors to consider are:

- Utilization of a new frequency band
- Frequency availability during new system testing and transition
- Limits and durations of acceptable systems down-time
- Timeline constraints
- Radio programming logistics

Consideration also needs to be given to whether multiple subscriber radios will need to be employed during the migration period. User training is an important aspect and can include training on: talkgroup structure; coverage area; and intermediate and long-term usage procedures. If some users migrate prior to others, temporary interoperability solutions may have to be employed in order to retain communications among all users.

Deliverables

- Site collaboration presentations, documents, or discussions
- System migration report

ENG-MW: Microwave Design Analysis

Description

In this service offering, OEC/ICTAP communications systems engineers analyze microwave design documentation to determine if the proposed specifications meet the needs of the State/Territory, Tribal, regional, or urban area requestor.

System backbones provide reliable and robust high-speed voice and data traffic between geographically separate communications sites. Proper backbone design is critical in order to maintain the Nation's public safety LMR systems. Microwave links are a common method used to provide these backbone communications.

An OEC/ICTAP microwave design analysis provides requestors an objective third-party report that may be used to assist system managers in decision making, as an initial design to be included in a Request for Proposal (RFP), as a supplementary information source in LMR system proposals, or for general information about microwave systems.

OEC/ICTAP presents the results of the microwave design analysis through an individual assessment report or in combination with other OEC/ICTAP engineering services. The assessment report may include a microwave system design, a microwave path analysis, and recommendations on equipment selection. The final deliverables are tailored to meet the requirements of the individual request.

Deliverables

- Microwave assessment report

NEW ENG-NB: VHF/UHF Narrow Banding

Description

Agencies operating on VHF (150-174 MHz) or UHF (450-512 MHz) frequencies are facing the FCC mandate to convert to narrowband operation by January 2013. There are several steps involved in meeting this mandate, including:

- Identification of impacted frequency licenses

- Inventory of affected radio equipment

- Update of licenses as necessary with FCC

- Reprogram and replace non-compliant equipment

- Test to determine coverage and interoperability impacts
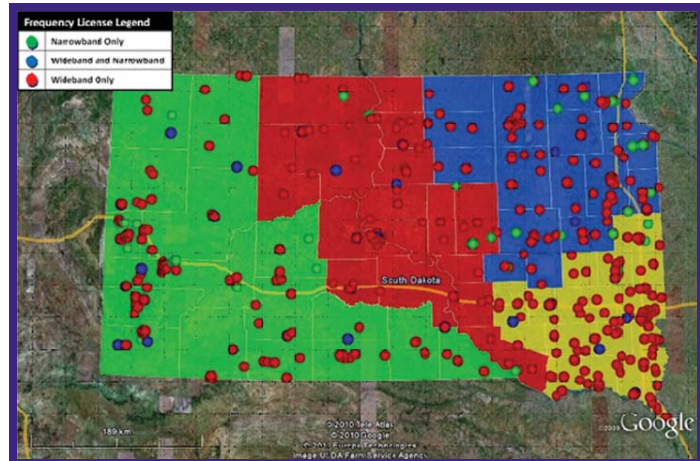
OEC/ICTAP analysis of affected frequencies can help stakeholders with this first, crucial step. Throughout 2010 OEC/ICTAP has been helping several States identify and organize these impacted frequencies in multiple ways. OEC/ICTAP's Frequency Management Tool (FMT) downloads FCC data each week. From this download, data is then exported into spreadsheets. Spreadsheet reports can be developed that separate the wideband and narrowband frequencies by county for distribution to appropriate stakeholders. The reports are sorted by various parameters including county, registration number, call sign, and frequency, then formatted to provide for additional analysis inherent to Excel (for example, filtering, resorting, etc.). Additionally, the information can be presented as a Google Earth® map overlay to easily identify the transmitters that still require attention. OEC/ICTAP regularly downloads FCC data each week; thus, the reports always contain the most recent information. Standard reports include only information for the public safety frequency pool (PW and YW). The industrial/business frequency pool (IG and YG) can also be included as they too are subject to the mandate. Coordination among some of these license holders (schools, utilities, etc.) is often needed as they may impact transition schedules.

As this offering matures, OEC/ICTAP plans to make available a secure web site for those agencies which have requested this support. This will allow for review of the status of their frequencies as well as enable users to update their own reports using current FCC data.

Deliverables

- Sorted listings of impacted frequencies

- Google Map *.kmz files

- Webinar and on-site review of data

ENG-P25W: P25 Land Mobile Radio Workshop

Description

This offering provides progressive levels of instruction about P25 standards and consists of five modules.

- Project 25 Overview: This overview provides a basic understanding of the P25 Land Mobile Radio (LMR) system for technical and non-technical attendees. It covers P25 features including the current status and future direction of the P25 standards development.

- Project 25 Features and Services: A more in-depth module for the LMR system decision maker, manager, administrator, and/or users, it is designed to help maximize system operability and interoperability between agencies.

- Project 25 ISSI Status: A short overview of the P25 Inter-RF Subsystems Interface (ISSI) to educate attendees on the status of this standard for LMR inter-system interoperability. The capabilities and implementation road map are covered to help LMR system administrators plan for its deployment in their systems.

- VOIP and ROIP: A short overview to help public safety communications professionals understand Voice over Internet Protocol (VOIP) and Radio over Internet Protocol (ROIP) as a possible interoperability solution.

- Introduction to Radiowave Propagation for Public Safety: This module discusses applicable radiowave propagation theory, prediction/planning, and coverage measurements. It is geared toward the system planner/designer to help evaluate a manufacturer's designs and acceptance test planning procedures. It should also help participants avoid common mistakes in proposed design improvements for fill-in and system expansion. It includes hands-on use of an RF planning tool.

Modules 1–4 are presented via webinar and last one to four hours. Module 5 is a one-day on site seminar. Modules 1–4 can accommodate 20 participants; module 5 is limited to preferably to no more than eight.

Deliverables

- Workshop and presentation materials
- Reference materials (CD)

ENG-SHARE: Systems and Engineering — Shared Resource Analysis and Coordination

Description

This service offering supports States/Territories, Tribes, regions or urban areas that want to develop formal agreements with Federal counterparts about shared communications resources. OEC/ICTAP engineers and SMEs evaluate requests for shared resources and infrastructure between Federal systems and requesting agencies at the State/Territory, Tribal, regional, or urban area levels to help determine the benefits to the departments/agencies. OEC staff can help gather requirements and prepare the documentation to coordinate the requirements with the partnership agencies. To support those interested in developing sharing agreements, OEC/ICTAP SMEs and engineering services can:

- Coordinate and facilitate meetings with departments/agencies to determine requirements (for example, interoperability, coverage, subscriber units, or frequency/spectrum)

- Coordinate with participating partners

- Facilitate meetings and agreements with State and regional partners

- Provide Memorandum of Understanding (MOU) and agreement templates

- Conduct surveys of proposed sites to determine suitability

OEC/ICTAP engineers make recommendations about department/agency equipment purchase and installation requirements, which allow for non-vendor-specific competitive bidding. OEC/ICTAP can provide analysis of P25 talkgroups and develop talkgroups to support the current and future needs of each department or agency. Acceptance test criteria can be reviewed to ensure that proper system functions are provided. SMEs can attend the acceptance testing to help ensure that vendors meet the requestors' system requirements.

SMEs will provide the templates for the MOUs covering system/site sharing and the ownership/use of frequencies and equipment requirements. They can assist in analyzing frequencies to ensure that sufficient spectrum is available to support interoperability among the various agency partners.

Deliverables

- Meeting to determine requirements

- Site survey evaluations

- Equipment lists

- Equipment specification requirements

- Templates for MOUs

- Populated MOUs

- Frequency and spectrum evaluation and support

- Acceptance test criteria

- Acceptance testing attendance and evaluation

ENG-SITEID: Systems and Engineering — Site Identification and Sharing Agreement

Description

This service offering is designed to help requestors determine the feasibility of potential sites to support emergency communications. If the site can support such requirements, this offering can also help agencies establish Memoranda of Understanding (MOUs)/memoranda of agreement (MOA) to share the site with current tenants. OEC/ICTAP engineers survey the site to gather initial data, validate previously gathered data, or create an updated baseline to determine the feasibility of supporting requirements. The survey may include the following activities:

- Collection and documentation of information to support network design and engineering
- Analysis of the condition of the site
- Collection of information on existing communications shelters
- Development of a list of existing communications equipment installed in the shelter
- Production of tower and shelter elevation drawings
- Analysis of tower loading capabilities
- Assessment of physical site security
- Development and documentation of approaches for physical security

OEC/ICTAP provides templates for defining each participant's responsibilities and commitments concerning the use of the site. OEC/ICTAP SMEs can provide guidance on the development of a site sharing agreement between the owning agency and other site participants. OEC staff can also advise regarding the representatives who should be parties to the sharing agreement.

Templates and samples for all agreement documents include definitions of the parties, authority, background, purpose, responsibilities, reporting and documentation, POCs, modification, termination, and approvals. OEC/ICTAP can offer recommendations on how to structure the various types of documents and can identify questions and issues that should be addressed when generating content for each of the sections within the various documents.

Deliverables

- List of communications equipment at site shelters
- Tower and shelter elevation drawings
- Tower loading analyses
- Assessment of physical site security
- Sharing agreement templates

ENG-SYS: LMR System Analysis

Description

Proper design of LMR systems is critical to ensure that the Nation's first responders have reliable and robust communications. OEC/ICTAP engineers serve as an independent third party to ensure that design documentation is objective and vendor-neutral.

OEC/ICTAP communications systems engineers analyze proposed system design documentation such as Requests for Proposals (RFPs), proposals and Acceptance Test Plans (ATPs) to determine whether proposed system purchases, changes, or upgrades meet the needs of the State/Territory, urban area, region, or Tribal users.

OEC/ICTAP provides the results of the LMR System Analysis in an assessment report which documents discrepancies between user requirements and existing or proposed system capabilities. This report includes engineering recommendations designed to resolve those gaps, improve technological interoperable communications functionality, and enhance regional interoperable communications capabilities. Analysis topics in this assessment may include interoperability, wide area communications capabilities, coverage, capacity, P25 features, and other issues.

In some cases, radio system planners may only need a high-level analysis of existing or proposed LMR system documentation. States/Territories, Tribal Nations, regions, and urban areas may request just a QuickLook analysis of an LMR system migration intended to provide a faster turnaround than an in-depth Assessment Report. As such, the content and depth of the final assessment report is determined by user needs and is tailored to the requirements of each individual request.

Deliverables

- Site collaboration presentations and discussions
- Final assessment report
- Final assessment presentation

■ Tactical Communications Enhancement Support

Tactical Interoperable Communications Plans (TICPs) are designed to support a site (that is, a State/Territory, Tribe, region, county or urban area) document interoperable communications governance structures, technology assets, and usage policies, and procedures. First responders can use a TICP to clearly define the breadth and scope of interoperable assets available in the area, how those assets are shared and their use prioritized, and the steps individual agencies should follow to request, activate, use, and deactivate each asset. COMLs can use them as a ready-reference tool to support interoperable and emergency communications across a geographic area.

Completed TICPs were required for all 2005 UASI sites and are encouraged for newly designated States/Territories, Tribes, regions, counties, multicounty regions or UASI (and non-UASI) cities.

Tactical Communications Enhancement Support services include:

- TIC-COM: Communications Plan Analysis/Event Communications Plan Analysis
- TIC-FOG: TIC Field Operations Guide (TICFOG) Development
- TIC-PIW: TICP Implementation Workshop
- TIC-UPDT: TICP Update Workshop
- TIC-WKSP: TICP Workshop

NEW **TIC-COM: Communications Plan Analysis/Event Communications Plan Analysis**

Description

This service offering identifies gaps in existing communications plans and/or Federal Annex K documents (Annex K is the primary document for publishing communications system guidance). It also helps requestors ensure that best practices and lessons learned are integrated into each planning document. It also helps ensure that communications policy is consistent across State/Territory, Tribal, regional, or urban area communications plans.

This offering evaluates planning documents for a National Security Event, disaster response, or a special public event with a high security profile. This analysis will provide recommendations for interagency communications plans that specify operable and interoperable communications processes and procedures.

OEC/ICTAP SMEs in operations, engineering, and policy help to ensure that communications planning documents are developed and implemented in the context of real-world operational considerations and mission requirements (such as response and recovery, law enforcement, and mutual aid). Multiple perspectives ensures that a comprehensive approach is consistently applied to all communications planning documents, thereby offering the requesting departments/agencies a common expectation for voice and data communications.

Deliverables

- Recommended revisions to communications plans and Annex K
- Inputs to communications plans/channel plans
- Inputs to event communications plans/channel plans
- Workshops and meetings for communications plan development

TIC-FOG: Tactical Interoperable Communications Field Operations Guide (TICFOG) Development

Description

This service offering is designed to help requestors develop Tactical Interoperable Communications Field Operations Guides (TICFOG) for those States/Territories, Tribes, regions or urban areas having an approved Tactical Interoperable Communications Plan (TICP). Based on the OEC National Interoperability Field Operations Guide (NIFOG), the TICFOG is a compendium of TICP reference material for use by emergency response and communications personnel responsible for establishing and maintaining interoperable communications during events or incidents. The TICFOG is designed as a pocket-sized quick reference guide that can be carried by radio operators and technicians at all times.

OEC/ICTAP will meet with requestors to determine the desired content and format for their TICFOG. If the current TICP is out of date, an update workshop (TIC-UPDT) can be scheduled to update and to verify the information in it. Once the site has completed its review, OEC will reformat and condense the operationally relevant information from the TICP to develop the TICFOG. The TICFOG may contain:

- Area maps (provided by the site)
- Agency / Communications Center POC information
- Radio cache request information
- Regional channel data
- Gateway SOPs
- Technical support contacts
- Amateur radio operator information
- Communications Unit personnel

This TIC-FOG offering can also provide general information from the NIFOG and pertinent TICP reference materials, if desired. OEC will provide the site a copy of the "draft" TICFOG for review and comment and will incorporate them prior to finalizing the TICFOG as a publication-ready work product for the requestor to print and distribute.

Deliverables

- Draft TICFOG template and instructions for site's review
- Printer-ready draft TICFOG
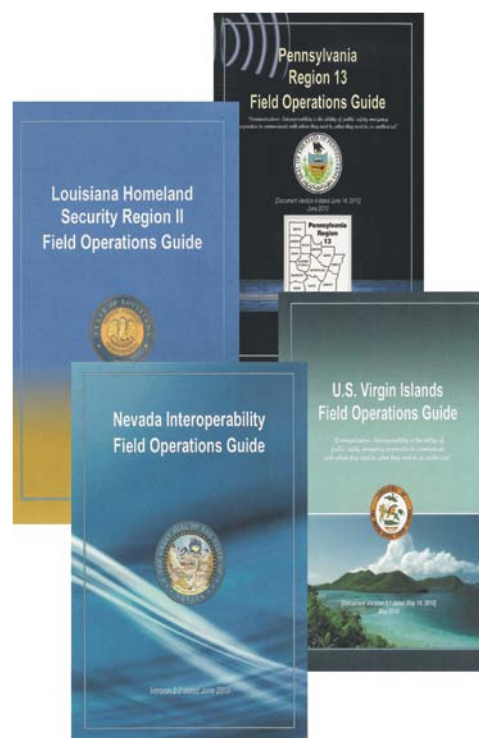
TIC-PIW: TICP Implementation Workshop

Description

This service offering provides a one-day Tactical Interoperable Communications Plan (TICP) Implementation Workshop (TICPIW) targeted to State/Territory, Tribal, regional, or urban area, and/or cross-disciplinary responders, and support personnel.

Once developed and approved, the TICP should be disseminated to all stakeholder agencies. Ensuring that communications users are knowledgeable about the plan and able to implement its components immediately increases the area's ability to maintain appropriate and effective interoperable communications during an event or incident of any size or scope.

Facilitated discussions and exercises are focused on the area's TICP, and are intended to prepare emergency response and communications personnel to execute interoperable communications during events or incidents. OEC/ICTAP facilitators familiarize responders and support personnel with their TICP and how to use their TICP as a tool to develop a communications plan. The TICPIW includes hands-on exercises using local scenarios, personnel, equipment, and communication assets, and can be tailored to meet specific audience requirements, on request.

OEC/ICTAP recommends inviting locally available State/Territory, Tribal, regional, or urban area agency personnel at field level to attend the workshop. Suggested participants would include, but are not limited to:

- Law enforcement, fire, and emergency medical service (EMS) communications specialists

- Law enforcement, fire, and EMS incident management staff

- Communication coordinators and supervisors

- Communications Unit Leaders

- Public safety and incident communication center managers

- Radio operators

- Technical specialists

- Regional emergency managers

- Personnel identified to respond to a Type I or II Incident of National Significance

Deliverables

- Workshop and presentation materials

- TICPIW reference materials

- Incident response paperwork and templates (for example, ICS Communications forms, etc.)

NEW TIC-UPDT: TICP Update Workshop

Description

In this service offering an OEC/ICTAP facilitator, data specialist, and communications SMEs coordinate and execute a one-day workshop to update an existing Tactical Interoperable Communications Plan (TICP) for a State/Territory, Tribal Nation, region or urban area. This service offering is available to areas that have an existing, but out of date, TICP.

In order to document the input of all relevant stakeholders and update the TICP in the most efficient and effective manner, OEC/ICTAP provides the requesting area with a list of the information needed prior to the workshop. The requesting area also receives a copy of the plan template that the group will populate during the workshop.

The workshop attendees should include communications and operational representatives from multiple agencies and jurisdictions across all public safety/service disciplines, including Tribal, non-governmental organizations, and volunteers, entities in the geographic area covered by the Plan. The working group should mirror the responders, and support personnel needed for a major incident in the area. Suggested participants would include, but are not limited to:

- Law enforcement, fire, and EMS communications specialists

- Law enforcement, fire, and EMS incident management staff

- Communication coordinators and supervisors

- Communications Unit Leaders

- Public safety and incident communication center managers

- Radio operators

- Technical specialists

During the workshop, participants will discuss and update the area's existing governance structures, technology assets, and policies/procedures related to interoperable communications during events ranging from day-to-day operations through large-scale critical incidents. In collaboration with site's attendees, OEC/ICTAP data specialists will populate the TICP template during the workshop with the information discussed and agreed to among the attendees.

OEC/ICTAP will provide examples to help requesters apply interoperable communications best practices and lessons learned from other areas with situations similar to their own. Once the TICP has been completed and approved by the site, a Tactical Interoperable Communications Field Operations Guide (TICFOG) (see TIC-FOG offering) can also be created.

Deliverables

- Workshop and presentation materials

- Document models and templates

- Draft updated TICP

- Draft TICFOG (if requested)

TIC-WKSP: TICP Workshop

Description

In this service offering an OEC/ICTAP facilitator, data specialist, and communications SMEs coordinate and execute a two-day workshop to help requestors develop a new Tactical Interoperable Communications Plan (TICP) for a State/Territory, Tribe, region or urban area. Developing a TICP requires the collaborative efforts and inputs of public safety organizations in the geographic area. In order to document the input of all relevant stakeholders and develop the TICP in the most efficient and effective manner, OEC/ICTAP provides the requesting area with a list of the information needed for the plan prior to the workshop. The requesting area also receives a copy of the plan template that the participants will populate during the workshop.

The requesting area's working group (that is, workshop attendees) should include communications and operational representatives from multiple agencies and jurisdictions across all public safety disciplines, including tribal, non-governmental organizations and volunteer entities in the geographic area covered by the Plan. The working group should mirror the responders and support personnel needed for a major incident in the area. Suggested participants would include, but are not limited to:

- Law enforcement, fire, and EMS communications specialists
- Law enforcement, fire, and EMS incident management staff
- Communication coordinators and supervisors
- Communications Unit Leaders
- Public safety and incident communication center managers
- Radio operators
- Technical specialists

The workshop allows participants to discuss and document the area's existing governance structures, technology assets, and policies/procedures related to interoperable communications during events ranging from day-to-day operations through large-scale critical incidents. In collaboration with site's attendees, OEC/ICTAP data specialists will populate the TICP template during the workshop with the information discussed and agreed to among the attendees. OEC/ICTAP will provide examples to help requesters apply interoperable communications best practices and lessons learned from other areas with situations similar to their own. Once the TICP has been completed and approved by the site, a Tactical Interoperable Communications Field Operations Guide (TICFOG) (see TIC-FOG offering) can also be created.

Deliverables

- Workshop and presentation materials
- Document models and templates
- Draft populated TICP
- Draft TICFOG (if requested)

Regional Communications Enhancement Support

The Strategic Communications Migration Plan (SCMP), formerly called a Regional Interoperable Communications Plan, establishes a vision for the future state of region-wide interoperable emergency communications. Regions may be defined by requestors as intrastate or interstate. The SCMP helps an area set regional goals and priorities collaboratively to address deficiencies in the region's interoperable and emergency communications structure. It also provides a roadmap for recommendations and milestones for emergency response providers and government officials to improve their regional communications capabilities over time. This plan is designed to:

- Establish a regional vision for current and future communication assets

- Develop a stepped, multi-year plan that allow a region to progress steadily from its current state to a desired end state in a manner that makes effective and efficient use of available and predicted funding sources

- Incorporate needs and recommendations from various groups of local stakeholders regarding ways to steadily improve their regional communication capabilities during the migration process

When completed, the SCMP prioritizes the high-level communications needs for the region and then aligns those needs with key Federal and State guidance documents such as the NECP, HSPD-8, the DHS TCL, and SCIP. This alignment helps a region to better identify the relation between their priorities and National or States' priorities in an effort to streamline funding and support request procedures.
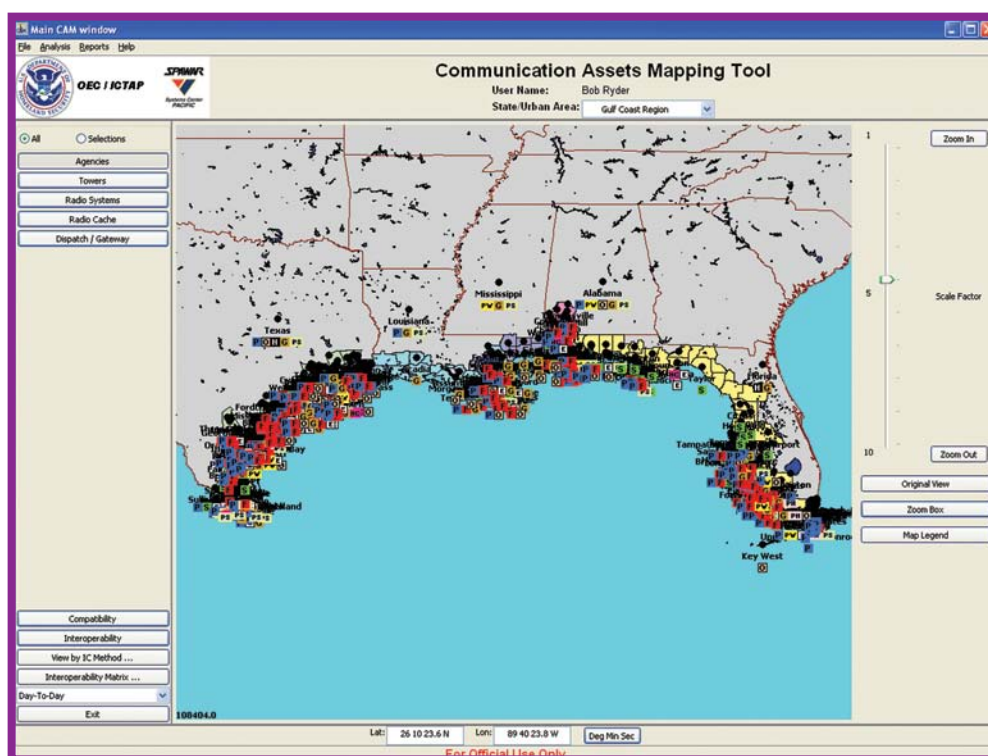
NEW ## RCES-SCMP: Regional Communications Enhancement Support — Strategic Communications Migration Plan (SCMP)

Description

In this service offering an OEC/ICTAP facilitator, data specialist, and communications SMEs coordinate and conducts a two-day workshop to develop the SCMP based upon a regional needs assessment of communications assets. The first day of the workshop is designed as a data gathering session focused on:

- Documenting existing regional communications capabilities

- Discussing gaps in regional communications and the impacts of those gaps on the public safety community's ability to execute their mission, and

- Identifying and prioritizing regional communications requirements

The second day focuses on incorporating this information into a strategic regional plan and working with regional stakeholders to incorporate their information into the SCMP template provided by OEC/ICTAP. An OEC/ICTAP data specialist will populate the SCMP template with the information discussed during the first half of the workshop. OEC/ICTAP facilitators may augment the discussion with examples to help requesters apply communication best practices and lessons learned from other areas of the Nation.

Developing a complete and usable SCMP requires the collaborative efforts and inputs of the local public safety professionals in the region. In order to document the input of all relevant stakeholders and develop the SCMP in the most efficient and effective manner, the workshop provides an opportunity for stakeholders to define their individual and regional operational needs, identify commonalities between the goals and needs of various stakeholder groups, develop regional migration goals and priorities that capitalize on those commonalities, and establish milestones to facilitate achieving each goal and priority.

The most successful SCMPs are therefore developed based on strong and diverse representation from stakeholders from all of the various disciplines, jurisdictions, and agencies across a region. The requesting region working group (workshop attendees) should consist of communications and operations representatives from multiple area agencies and jurisdictions across all public safety/service disciplines, including non-governmental organizations, volunteers and tribal entities. The working group should mirror the responders and support personnel needed for a major incident or planned event in the region. For an interstate workshop, only one SWIC in coordination with counterparts in the other States needs to request this as a TA service offering.

Deliverables

- Workshop and presentation materials

- Document models and templates

- Populated draft SCMP

■ **Special Offerings**

OEC/ICTAP's offerings are available to State/Territory, Tribal, regional or local requestors for technical assistance relating to interoperable emergency communications in other categories than those discussed in previous sections.

Two special offerings this year include support for auxiliary communications ("ham" radio operations) and Native American or Tribal Nation's initiatives.

- SPCL-AUXCOMM: Auxiliary Communications Workshop
- SPCL-TRBL: Native American Public Safety Communications Needs

The TA offering for Native American Public Safety Communications Needs is intended for Federally-recognized Tribal Nations as named by the Bureau of Indian Affairs. States/Territories which solely recognize a tribe may submit a TA request for that tribe as one of their TA requests.

NEW

SPCL-AUXCOMM: Auxiliary Communications Workshop

Description

This workshop is designed for the amateur radio/auxiliary communicator or group who provides emergency communications backup support for planned or unplanned events at a State/Territory, Tribal, regional, or local level. This offering is designed for amateur radio operators/organizations who work with public safety and cross-disciplinary emergency response professionals and coordination/support personnel with an amateur radio background. The request and conduct of this course will be under the auspices of the Statewide Interoperability Coordinator (SWIC).

Volunteer emergency communications operators/groups in the amateur radio service have been providing back-up communications to public safety for nearly 100 years. They are used by event planners, public safety officials and emergency managers at all levels of government. Often, amateur radio services have been used reliably when other forms of communications have failed or have been disrupted. Today nearly all the States/Territories have incorporated some level of participation by amateur radio auxiliary communication operators into their SCIPs.

The course focuses on educating attendees about auxiliary communications interoperability, emergency operation center etiquette, on-the-air etiquette, FCC rules and regulations, auxiliary communications training and planning, certification and accreditation and emergency communications deployment. It is intended to supplement and standardize an operator's basic knowledge of emergency amateur radio communications in a public safety context.

Attendees should take the on-line IS Courses 100, 200, 700, and 800 prior to the workshop. This is a three day course with facilitated lecture and student exercises. This course builds in time for interactive discussions and exercises. OEC/ICTAP staff will work through the discussions and exercises to explain processes to reach communications operability, interoperability and be able to incorporate any additional communications solutions.

Deliverables

- Workshop and presentation materials
- Written high-level project plan
- Outline(s) of project plan annexes
- Follow-up review and comment on requestor's work products

NEW SPCL-TRBL: Native American Public Safety Communications Needs

Description

During 2011, OEC/ICTAP will provide a special focus to Native American public safety agencies in the form of extended TA offerings. These offerings will be tailored to the specific Tribal public safety agency's requirements; for example, an introduction to NIMS may also benefit from COMT and COML workshops at the same time. OEC/ICTAP will provide Tribal requestors with an interdisciplinary team of SMEs who can assist and support in the following areas:

- Evaluate legacy LMR systems and assess the need for upgrades, replacements

- Draft statements of work/statements of requirements for procurements relating to new radio and data communications systems

- Establish high-level objectives, milestones, and metrics for interoperable emergency communications projects

- Consult on policies and procedures for Tribal emergency notifications policies and tools

- Integrate broadband technologies into public safety operations in Indian Country

Deliverables

- Tailored to the request

# ■ Communication Assets Survey and Mapping (CASM) Tool Support

OEC/ICTAP provides at no-cost a secure, automated tool for all public safety agencies to store, retrieve, and visualize radio communications assets. Since 2005, the CASM automated tool has enabled public safety agencies at all levels to securely and accurately collect, store, and visualize data about their communication assets and how these assets are used. CASM stores data from nearly 30,000 agencies nationwide on a secure server with multiple levels of access depending on authorizations. CASM maintains data about public safety radio communications equipment owned and operated across all public safety disciplines; however, it is not a complete inventory of the nation's emergency communications equipment. CASM outputs support development of TICPs and FOGs. Additionally, OEC/ICTAP can create "views" of CASM data upon request to support regional planning. The accuracy and currency of all data is the responsibility of the using agency.

The CASM application has two components: Communication Assets Survey (CAS) and Communication Assets Mapping (CAM). CAS provides a means to enter, edit, and delete information about agencies, communication assets (such as radio systems, PSCCs, mutual aid channels/systems, gateways, and radio caches), and agency usage of the assets. CAM provides a means to display this information in a map-based interface and provides analysis tools for displaying agency-to-agency interoperability, including interoperability gaps, in various ways.

CASM services include:

- CASM-IMPORT: Data Import

- CASM-INIT: Initialization

- CASM-INPUT: TICP/SCIP Interoperability Equipment and Usage Input

- CASM-REV: Data Review/ Analysis

- CASM-STRAT: Roll-Out Strategy Webinar

- CASM-TRAIN: Training

In addition to these CASM services, help for CASM-related issues is provided via e-mail at CASM-support@spawar.navy.mil and through regularly scheduled webinars that are announced to CASM users by email notification.
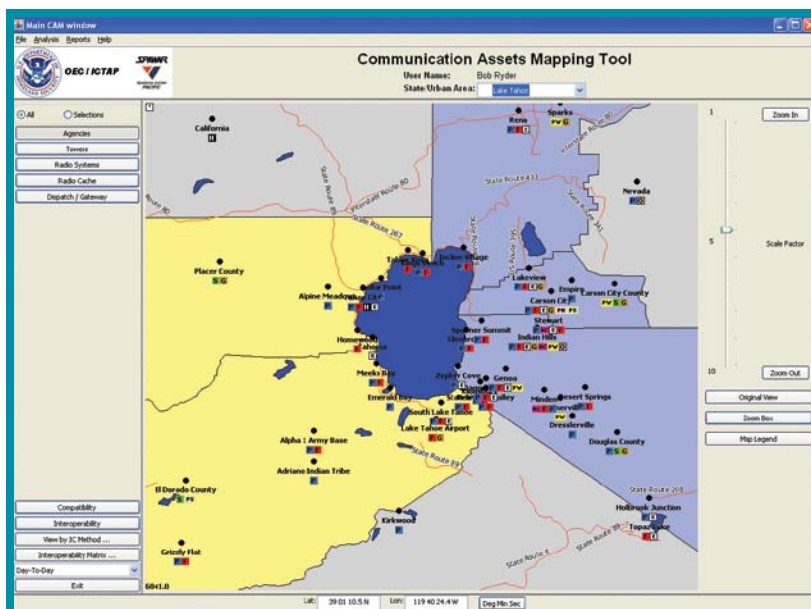
CASM-IMPORT: Data Import

Description

This service offering provides a mechanism for importing data directly into the CASM database. The intent of the data import service is to expedite the task of entering voluminous amounts of data into CASM that may already exist in another database. Data Import instructions and templates are provided in the CASM Data Import Service listed under CAS 'Help' on the CASM Website, https://franz.spawar.navy.mil. A valid CASM user ID and password are required to access CAS 'Help'.

Types of data that can be imported into CASM include:

- Agencies
- Channels — those provided by a radio system, used by an agency, or programmed in a radio cache
- Talk groups — those provided by a trunked radio system, used by an agency, or programmed in a radio cache
- Towers used by a specific radio system
- Repeaters/base stations for a radio system on towers
- Dispatch centers and the agencies served
- Points of contact

Once the data is provided to OEC/ICTAP staff, it will be reviewed for duplicates to existing data already in CASM. OEC/ICTAP staff will discuss and resolve inconsistencies and/or data errors with the provider prior to the physical import.

Deliverables

- CASM populated account
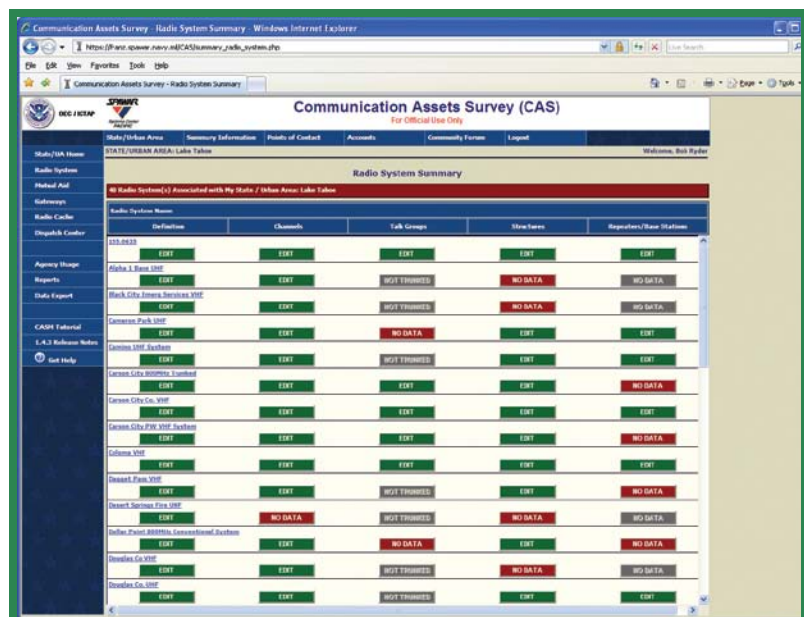
CASM-INIT: Initialization

Description

This service offering enables a State/Territory, Tribal, regional, or urban area public safety agency to initiate use of CASM. OEC/ICTAP will create the User Account for the top-level CASM Administrative Manager (AM) and set up a CASM account in the database and a map view for the requestor. The SWIC or SCIP POC must designate a CASM Administrative Manager (AM), using the AM Authorization Memo, to establish and obtain administrative support for a CASM User Account. Appendix D contains a copy of the AM authorization memo. The approved, signed User Account Request Form may be submitted by fax to 619-553-4668 attn.: CASM or by e-mailing the scanned document to: CASM-support@spawar.navy.mil.

OEC/ ICTAP initiates the CASM database and map views for the requesting State/Territory, Tribal, region or urban area. This offering also creates the top-level AM User Account and provides the AM with a webinar and a copy of the Account Administration - Instruction Guide document when CASM is ready for use.

Deliverables

- State/Territory, Tribe, region or urban area setup in CASM

- CASM account for the State/Territory, Tribal, regional, or urban area, requestor

- Webinar for the AM

- CASM instruction guide for account administration

CASM-INPUT: TICP/SCIP Interoperability Equipment and Usage Input

Description

This service offering provides support for inputting information into CASM about interoperable radio equipment described in the State/Territory's, Tribe's, region's or urban area's TICP, SCIP, or FOG.

The objective of this service is to synchronize the TICP/SCIP specified interoperable equipment description and usage with the State/Territory's urban area, region, Tribe, or CASM dataset. The requestor provides OEC/ICTAP the TICP or SCIP document, and the specified information about radio equipment is then entered into CASM as a one-time effort. Requestors will be expected to maintain the data in CASM. The TICP and SCIP POCs may be asked to resolve detailed questions that arise.

Deliverables

- CASM account populated with TICP/SCIP/FOG data

CASM-REV: Data Review/Analysis

Description

This offering provides an OEC/ICTAP review and analysis of data entered into CASM by State/Territory, Tribal, regional, or urban area representatives. This review will analyze the data to identify any incomplete, inconsistent, or anomalous values.

The scope may involve any or all jurisdictions including the entire State/Territory, Tribe, region or urban area, counties, municipalities, individual agencies or subsets of their data to be reviewed. The review will also provide suggestions about the data that might be taken to provide a more accurate picture of interoperability. These suggestions will help the requestor rectify anomalous data entries and better utilize CASM to provide a more accurate picture of interoperability in a specific geographic area.

Deliverables

- CASM review/analysis report
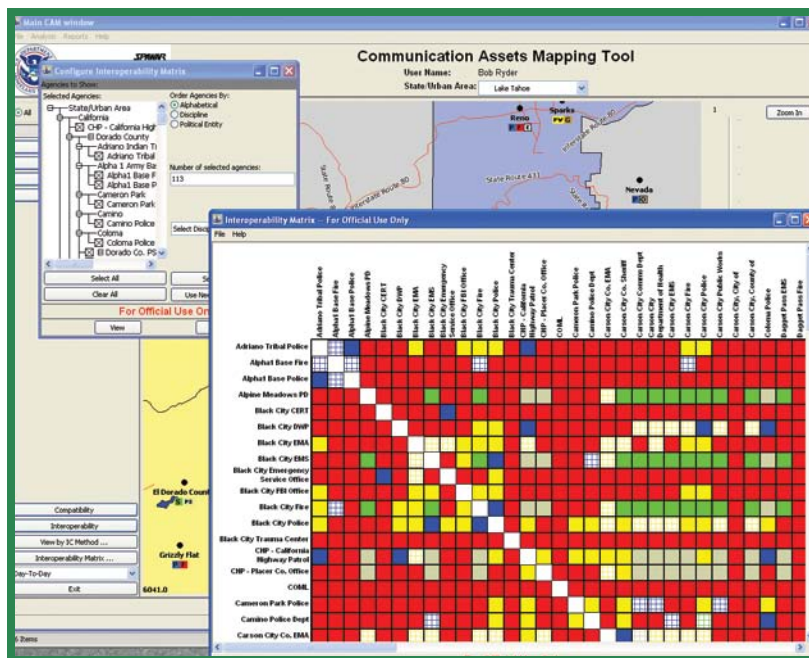
CASM-STRAT: Roll-Out Strategy Webinar

Description

This service offering provides support to develop the appropriate roll-out strategy for the State/Territory, Tribe, region or urban area using the CASM Data Collection Guidance document as a reference. OEC/ICTAP staff will conduct a CASM strategy webinar with an area's interoperability leadership (for example, SWIC, SIEC, SIGB, and Interoperability Committee) to assist with the following:

- Defining a roll-out strategy based on identified goals
- Reviewing existing approaches in achieving like goals
- Identifying recommended CASM use to achieve goals
- Recommending AM hierarchy
- Identifying resources to support
- Establishing a timeline

Deliverables

- CASM strategy webinar
- Data collection guide
- Documented CASM roll-out strategy

CASM-TRAIN: Training

Description

This service offering provides training for the CASM application on-line via webinar. An OEC/ICTAP instructor presents the basic operations of the CAS and CAM components. The seminar includes the use of CAS to enter, edit, and delete information about agencies, communication assets (such as radio systems, dispatch centers, mutual aid channels/systems, gateways, and radio caches), and agency usage of the assets. The seminar also includes the use of CAM to display CAS-entered data on a map-based interface and use of analysis tools for displaying agency-to-agency interoperability, including interoperability gaps, in various ways. A typical session is a four-hour presentation that provides a combination of lecture and participants' hands-on use of the CASM application.

CASM also provides monthly online training. This training, typically offered three times a month, is available to all on a first come basis, and does not require a separate TA request to participate. Each session focuses on one CASM feature or function and is an hour long. All CASM users are invited to participate.

Deliverables

- Training brief
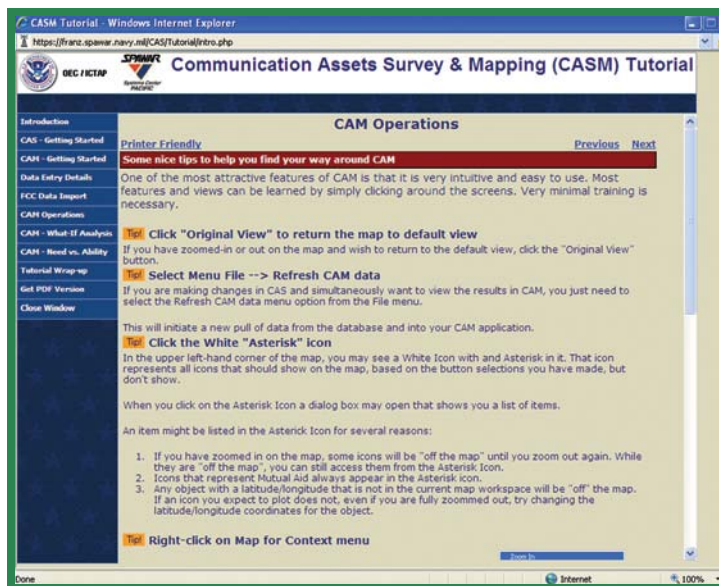
Appendix A: OEC 2011 TA Request Form

Instructions

Review the 2011 TA Catalog and select the desired item(s); if you do not find an offering that matches your specific requirements, then

- Discuss your requirements with your State/Territory's SWIC and OEC Regional Coordinator (for Region IV, email any questions to oec@hq.dhs.gov)

- Complete the TA request form (see Appendix A-1) depicted on the next page

- State/Territory, regional or urban area/local government requestors use the TA Request Form in Appendix A-1

- Federally-recognized Tribal Nations will be contacted separately from this process and need not use this form

- Federal departments/agencies may request OEC/ICTAP TA on a cost reimbursable basis. Contact oe@dhs.gov for details

List your requested TA offerings requests in priority order, highest to lowest (1–4).

- Using the pick arrow for a listing of titles in the catalog, select the service offering(s) which correspond most closely to the assistance needed for each of your initiatives

- Under Regional Coordinator, use the pick arrow to select the name of the OEC Regional Coordinator for your State/Territory and that individual's email address

- Use the fifth request for a UASI urban/metropolitan area

- If your State/Territory has no UASI, select an urban/metropolitan area in the State/Territory

For each TA service offering you chose, enter a brief description of the challenge or requirement in the cell under "Description of Assistance" for which the technical assistance is needed.

- Each Description cell on the first page allows 80 characters; the corresponding cell on the continuation page allows another 550

- Under "TA Offering", use the pick arrow to select the abbreviation for the service offering that mostly corresponds to your requirements

- Under "Timeframe," enter a start (top portion of cell) and end month (bottom portion of cell) for the requested assistance

- Under "Primary Point of Contract," enter the name, phone number and email address for a point of contact whom OEC/ICTAP may contact about the request

Submit all requests to your SWIC or Statewide Communications Interoperability Plan (SCIP) Point of Contact for signature.

- The SWIC or SCIP POC then has the SAA sign the form

- Enter submission date

Email the completed form as a scanned PDF to oec@hq.dhs.gov or fax it to (202) 343-4015 by December 15, 2010.

Appendix A-1: OEC 2011 TA Request Form

State/Territory, urban area, regional and local requests

DEPARTMENT OF HOMELAND SECURITY

Office of Emergency Communications

Technical Assistance (TA) Request Form for State/Territory/Local Agencies

Upon completion, submit the form to DHS OEC by fax (202-343-4015) or print the

form, scan it, and email it to oec@dhs.gov

Requestor Contact Information:

State:	Agency:
Name:	Title:
Phone:	Email Address:

OEC Regional Coordinator Contact Information:

Name / Email:	Select Regional Coordinator

Please indicate each TA Catalog offering requested in order of priority; how the technical assistance will meet identified SCIP initiatives or identified gaps and the desired timeframe for providing the assistance. The scope of assistance to be delivered will be determined by available OEC TA resources. At least one initiative should provide direct support to a designated urban/metropolitan area. If a State has no UASI area, then select a metropolitan area in the State.

Priority	Description of Assistance	TA Offering	Timeframe From / To	Primary Point of Contact (Name, Phone, Email)
1		Select TA Offering		
2		Select TA Offering		
3		Select TA Offering		
4		Select TA Offering		
Urban / Metro	Description of Assistance	TA Offering	Timeframe From/To	Primary Point of Contact (Name, Phone, Email)
5		Select TA Offering		

_____   _____   _____
SWIC/SCIP POC Signature   State Administrative Agency   OEC Authorized Signature

_____
Submission Date

Paperwork Reduction Act Notice. We ask for the information on this form to carry out official business of the Department of Homeland Security. You are not required to give us the information. We need it to prioritize requests for Technical Assistance within authorized funding levels. You are not required to provide the information requested on a form that is subject to the Paperwork Reduction Act unless the form displays a valid OMB control number. The average time and expenses required to complete and file this form will vary depending on individual circumstance

DHS Form 9403 (3/10)

Appendix A-1: OEC 2011 TA Request Form (cont.)

Homeland Security

CONTINUATION SHEET - TA REQUEST FORM

Please Provide Additional Background or Details about these Requests (Corresponding to the Respective Request Number).

Priority	Description of Assistance
1	
2	
3	
4	

Urban / Metro	Description of Assistance
5	

Paperwork Reduction Act Notice. We ask for the information on this form to carry out official business of the Department of Homeland Security. You are not required to give us the information. We need it to prioritize requests for Technical Assistance within authorized funding levels. You are not required to provide the information requested on a form that is subject to the Paperwork Reduction Act unless the form displays a valid OMB control number. The average time and expenses required to complete and file this form will vary depending on individual circumstance

DHS Form 9403 (3/10)

Appendix B: OEC Regional Coordinators

Region	OEC Regional Coordinator
Region I Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, Vermont	**Rick Andreano** richard.andreano@dhs.gov
Region II New Jersey, New York, Puerto Rico, US Virgin Islands	**Christopher Tuttle** christopher.tuttle@dhs.gov
Region III District of Columbia, Delaware, Maryland, Pennsylvania, Virginia, West Virginia	**Robert Pedersen** robert.pedersen@dhs.gov
Region IV Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee	**Vacant** oec@dhs.gov
Region V Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin	**James Jarvis** james.jarvis@dhs.gov
Region VI Arkansas, Louisiana, New Mexico, Oklahoma,, Texas	**Ken Born** Kenneth.born@dhs.gov
Region VII Iowa, Kansas, Missouri, Nebraska	**James Lundsted** james.lundsted@dhs.gov
Region VIII Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming	**Dan Hawkins** daniel.hawkins@dhs.gov
Region IX Arizona, California, Nevada, Hawaii, American Samoa, Guam, the Commonwealth of the Northern Mariana Islands	**Tom Lawless** thomas.lawless@dhs.gov
Region X Alaska, Idaho, Oregon, Washington	**Bruce Richter** bruce.richter@dhs.gov

Appendix C: CASM AM Authorization Form

Example Memo - AM Authorization Memo

Example memo that may be used by the SIEC or UAWG to request approval for the Administrative Manager from the State Administrative Agency.

MEMORANDUM

TO: **State Administrative Agency**

FROM: **<State/Urban Area name> SIEC or UAWG as appropriate**

DATE: **<current date>**

SUBJECT: **Administrative Manager for the Communication Assets Survey and Mapping Tool**

The <State/Urban Area name> is currently receiving support from the Interoperable Communications Technical Assistance Program (ICTAP) offered by the U.S. Department of Homeland Security (DHS). As part of the ICTAP support, we plan to take advantage of the Communication Assets Survey and Mapping Tool (CASM) software offered through the program.

To ensure that this tool is available to only authorized personnel, DHS has developed an approval process for CASM users. The <State/Urban Area name> has named <Administrative Manager's name> to serve as our CASM Administrative Manager and as required by DHS, we would ask for your approval of the appointment to this position. <Administrative Manager's name> currently serves as <state position held>.

As Administrative Manager for CASM, <Administrative Manager's name> will be responsible for managing all User Accounts for the State/Urban Area (e.g., issuing user names and passwords to all new users). Before new users are authorized, we have required that the Administrative Manager must receive written approval from the Statewide Interoperability Executive Council or Urban Area Working Group.

We are very excited to have been given access to the CASM tool and we believe that it will be a valuable tool. Therefore, we would ask for your signature below as concurrence to utilize the CASM tool with <Administrative Manager's name> serving as CASM Administrative Manager.

_____

Statewide Interoperability Executive Council or Urban Area Working Group Representative

_____

State Administrative Agency Representative

Appendix D: Glossary of Terms/Acronyms

Acronym/ Abbreviation	Definition
AAR	After action report
AM	[CASM] administrative manager
CAM	Communication Assets Mapping [component of CASM]
CAP	Corrective action program
CAS	Communication Assets Survey [component of CASM]
CASM	Communication Assets Survey and Mapping tool
COG	Continuity of government
COMT	Communications unit technician
COOP	Continuity of operations plan
DHS	Department of Homeland Security
EDT	Exercise design team
EEG	Exercise evaluation guidelines
EMS	Emergency medical services
EOP	Emergency operations plan
EPT	Exercise planning team
ESF	[FEMA] Emergency Support Function
EXPLAN	Exercise plan
FCC	Federal Communications Commission
FE	Functional exercise
FEMA	Federal Emergency Management Agency
FMT	[OEC/ICTAP] Frequency Management Tool
FSE	Full scale exercise
GETS	[DHS] Government Emergency Telecommunications Service
GOV	Governance
HSEEP	[DHS] Homeland Security Exercise Evaluation Program
HSPD-8	Homeland Security Presidential Directive — 8
ICS	[NIMS] Incident Command System
ICTAP	[DHS OEC] Interoperable Communications Technical Assistance Program
IP	Improvement plan
LMR	Land mobile radio
LTE	Long Term Evolution

Appendix D: Glossary of Terms/Acronyms (cont.)

Acronym/ Abbreviation	Definition
MAA	Mutual aid agreement
MCS	[OEC] Multi-Jurisdictional Communications Services Division
MOA	Memorandum of agreement
MOU	Memorandum of understanding
MSEL	Master scenario events list
NBP	[FCC] National Broadband Plan
NECP	National Emergency Communications Plan
NIMS	National Incident Management System
OEC	[DHS] Office of Emergency Communications
OP	Operations[al]
POC	Point of contact
PSBL	[FCC] Public Safety Broadband Licensee
PSCC	Public safety communications center
RC	[OEC] Regional Coordinator
RFP	Request for proposal
SAA	State Administrative Authority
SCIP	Statewide Communication Interoperability Plan
SCMP	Strategic Communications Migration Plan
SIGB	State Interoperability Governance Board
SIEC	State Interoperability Executive Council
SITMAN	Situation Manual
SME	Subject matter expert
SOP	Standard operating procedure
SWIC	Statewide Interoperability Coordinator
TCL	[DHS] Target Capabilities List
TIC-FOG	Tactical Interoperable Communications Field Operations Guide
TICP	Tactical Interoperable Communications Plan
TtT	Train-the-trainer
TTX	Table top exercise
UASI	Urban Area Security Initiative

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